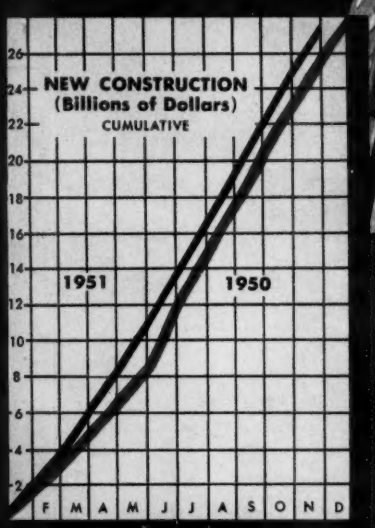
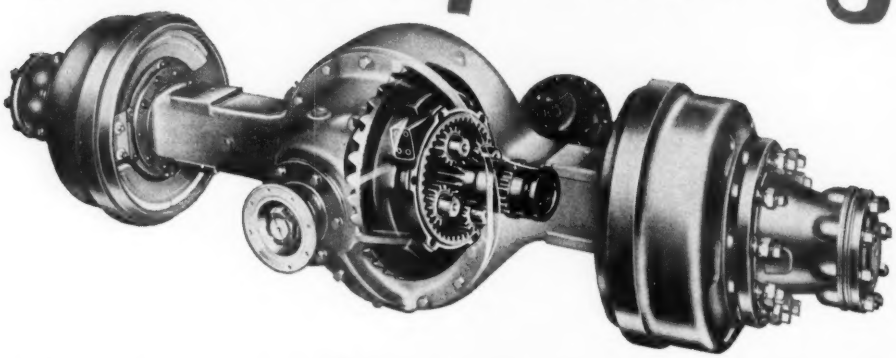
The CONSTRUCTOR

Volume XXXIII DECEMBER 1951 Number 12



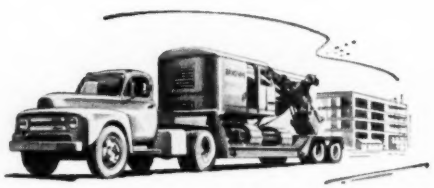
Planetary Gearing



saves stress & wear-adds to axle life!

WITH Eaton's planetary construction, gear tooth loads are distributed over four "planet gears," holding stress and wear on any one gear tooth to a minimum. These four gears are completely locked out in the high speed range. In the low speed power range, they rotate at slow speeds. The result is quiet operation; easy, clash-free shifting at all truck speeds; minimum wear; materially longer axle life. The rugged planetary design and forced flow lubricating system—both exclusive Eaton features—enable Eaton 2-Speeds to set unequalled life and performance records. Your truck dealer will explain how Eaton 2-Speeds also reduce stress and wear on the engine and power transmitting parts—how they help your trucks haul more, faster, longer, at lower cost.

Axle Division
EATON MANUFACTURING COMPANY
CLEVELAND, OHIO



EATON
2-Speed Truck
AXLES

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

What Goodyear is doing about the Highway Crisis

—in the public interest—and yours!

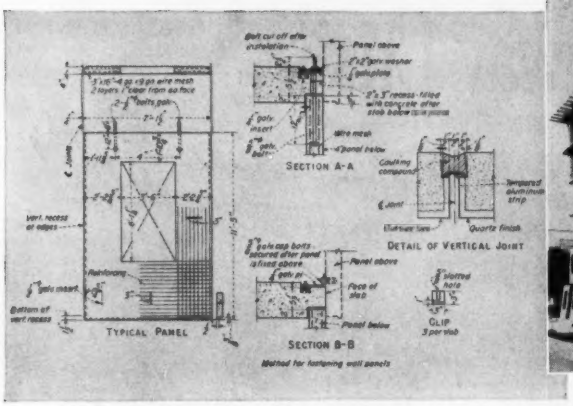
In behalf of the modern highway system that this country needs so desperately, Goodyear is running two-page, full-color advertisements like these in the Saturday Evening Post and Collier's—

Another reason why it pays always to BUY and SPECIFY

GOODYEAR

THE GREATEST NAME IN RUBBER

An Idea with a Future!



PANEL CONSTRUCTION OFFERS WIDE RANGE OF POSSIBILITIES

'INCOR' 24-HOUR CEMENT used in precast panels for MIAMI'S FIVE-FIFTY BUILDING

● Panel construction—lightweight aggregate or sandwich wall—is spreading rapidly.

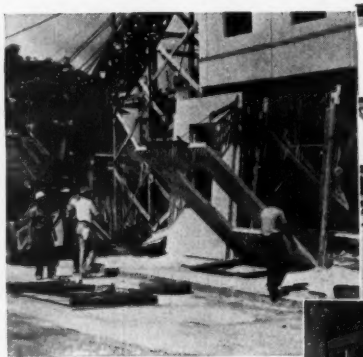
This new building in Miami has story-high, 4-in.-thick, precast wall panels of lightweight concrete, supported from floor above by bolts cast in top edge of slab. Lower edges are secured to edge of floor by angle clips. Vertical joints are closed from the back by spring-aluminum strips snapped into dovetail joints, then caulked from behind. Interior wall back-up is 2" glazed tile.

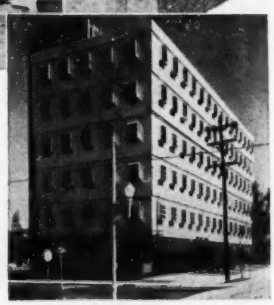
A reinforced-concrete utility shaft houses the elevators, stairs and service facilities, and carries wind-load stresses, in a structure built to withstand a 175-mph hurricane. Precast panels made spandrel walls unnecessary.

The precision-made wall panels were cast face down with 'Incor' concrete, using pumice aggregate for weight reduction—quartz aggregate and white cement for facing.

Fast, thorough 'Incor'* curing minimizes costly form requirements, assures high strength, early and ultimate . . . at lowest initial and annual cost!

*Reg. U. S. Pat. Off.





FIVE-FIFTY OFFICE BUILDING
Brickell Ave. bet. S. E. 5th & S. E. 6th Sts., Miami

Owner: **FIVE-FIFTY INC.**

Architect:
ROBERT LAW WEED & ASSOCIATES

Structural Engineers:
JORGENSEN & SCHREFFLER

Contractor: **J. Y. GOOCH CO., INC.**

Precast Panels:
MAULE INDUSTRIES, INC.
all of Miami

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK
PHILADELPHIA • RICHMOND • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 17 MODERN MILLS, 125,000,000 SACKS ANNUAL CAPACITY

The CONSTRUCTOR

BUILDINGS • HIGHWAYS • AIRPORTS RAILROADS • PUBLIC WORKS

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COVER

On this month's cover is a recent photograph showing the installation of aluminum panels and reversible aluminum windows on the 7th through 12th floors of the office building of the Aluminum Company of America in downtown Pittsburgh. Cantilever beams projecting at lower left will serve as "hangers" for the structure's 4½-story entrance. The unique, 30-story building will be occupied by Alcoa personnel next May. (Alcoa Photo.) Story on page 31.

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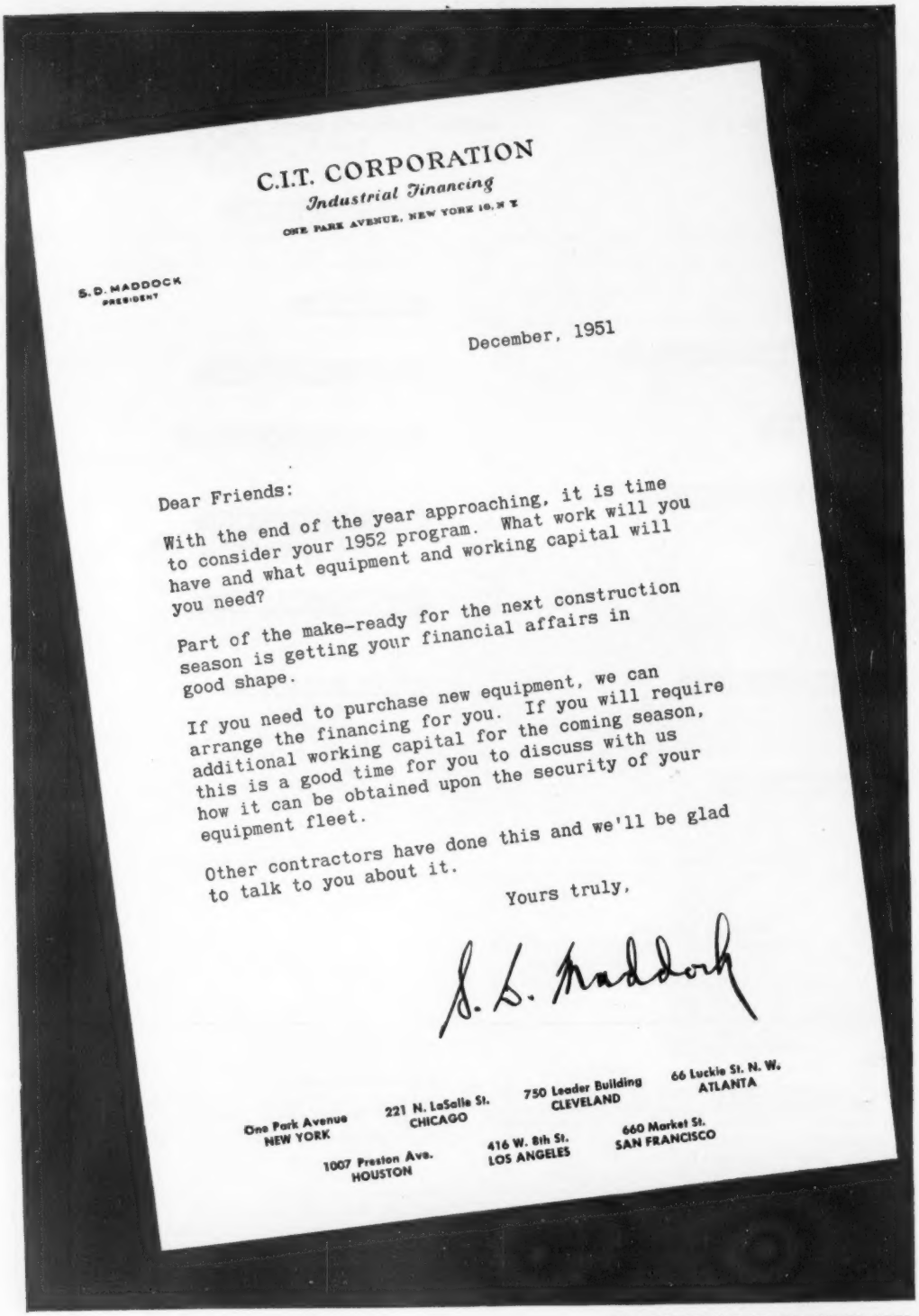


C.I.T. CORPORATION

Industrial Financing

ONE PARK AVENUE, NEW YORK 16, N. Y.

S. D. MADDOCK
PRESIDENT

December, 1951

Dear Friends:

With the end of the year approaching, it is time to consider your 1952 program. What work will you have and what equipment and working capital will you need?

Part of the make-ready for the next construction season is getting your financial affairs in good shape.

If you need to purchase new equipment, we can arrange the financing for you. If you will require additional working capital for the coming season, this is a good time for you to discuss with us how it can be obtained upon the security of your equipment fleet.

Other contractors have done this and we'll be glad to talk to you about it.

Yours truly,

S. D. Maddock

One Park Avenue NEW YORK
221 N. LaSalle St. CHICAGO
750 Leader Building CLEVELAND
66 Luckie St. N. W. ATLANTA
1007 Preston Ave. HOUSTON
416 W. 8th St. LOS ANGELES
660 Market St. SAN FRANCISCO

Ceiling Price Regulation 93, tailored for the construction industry, as finally issued Nov. 20, is considered by industry spokesmen to be a realistic approach to contractors' pricing problems so knotty as to tie up issuance of a satisfactory control order for over three months. (Page 21)

The Renegotiation Board has issued interim regulations to guide contractors' preparation for profit adjustments under the 1951 Act. The A.G.C. has requested a hearing during which recommendations relating to general contractors can be presented.

Steel allocations for the first quarter of 1952 have been supplemented by Defense Production Administration to permit increase of school, hospital, highway and other types of construction projects, and the copper allocation for the manufacture of building materials has been enlarged. (Page 22)

A government contracting officer's findings cannot be disputed regardless of any error or arbitrariness on his part, so long as he was not fraudulent in reaching his decision, so the Supreme Court ruled in its 6-3 decision of the Wunderlich case issued Nov. 26. Strong dissents which accompany the majority opinion state in effect that the Court's ruling fosters an undesirable degree of bureaucratic control over contractors doing work for the government. (Page 24)

The 1951 revenue law which, many congressmen warn, brings the country to its tax saturation point, greatly increases the difficulty for contractors to operate profitably though it does include a long-sought change in the tax on transportation of property. (Page 26)

Annual federal-aid highway authorizations totalling $810 million, to be apportioned to states on a 50-50 matching basis, will be recommended to the next session of Congress by the American Association of State Highway Officials, as agreed by A.A.S.H.O. officials at a meeting in late November. Setting up of a special interstate highway fund is again proposed. (Page 34)

Allocation of highway federal-aid funds for 1952 were announced by the Bureau of Public Roads. They include $225 million for the federal-aid highway system, $150 million for secondary system, and $125 million for urban areas. Forest highway allocations also announced. (Page 34)

"Realistic" consideration by the government to the needs for both essential civilian and national defense construction was recommended by Construction and Civic Development Committee of U. S. Chamber of Commerce. The meeting of many industry representatives expressed confidence that the industry has ability to do both jobs promptly and economically if government eliminates policies that hamper productive capacity. (Page 23)

NPA denied 63% of more than 3,000 4th quarter applications for commercial, religious, community facility, and amusement and recreational projects coming under jurisdiction of its Construction Controls Division. The agency was able to allot only 15% of the steel requested, 3.6% of the copper asked, and no aluminum. Generally, no project was permitted to begin unless directly or indirectly involved in defense effort. (Page 23)

Coordination of airport programs, civilian and military, was recommended by National Association of State Aviation Officials—A.G.C. Joint Cooperative Committee which met last month. (Page 35)

Harry A. Dick, 26th A.G.C. president, died at his home in Portland, Oregon, Nov. 9. The nationally known leader in the construction industry and pioneer contractor in the Pacific Northwest succumbed to a heart ailment which had started early in his youth. (Page 49)

State school construction plans to meet an annual need of about $1.5 billion in new facilities are generally stymied by the defense program but can be expected to proceed without interruption once emergency demands for materials subside. (Page 30)

Modification of building codes, many of which are considered out-dated, is being pushed to the front by the need for conservation of building materials with government and private agencies interested in construction taking the lead in the drive. (Page 32)

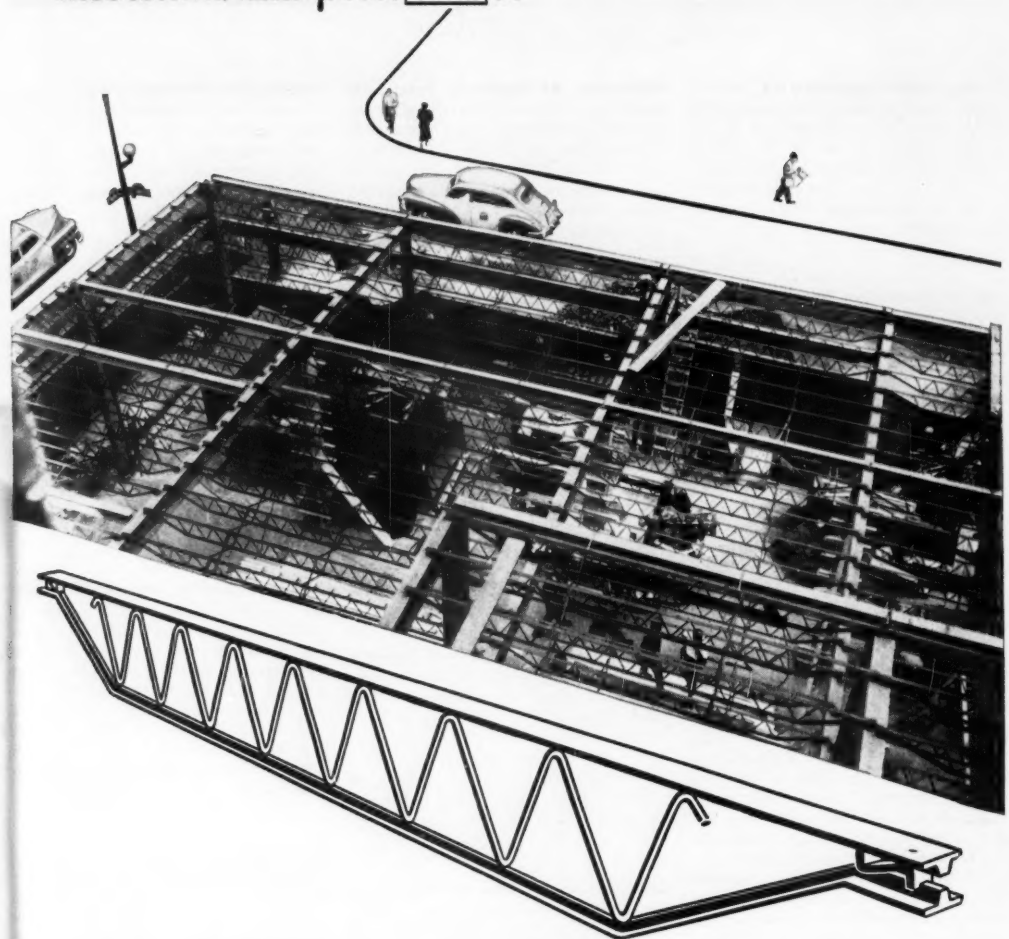
Construction contract awards, the Board of Governors of the Federal Reserve reports, declined slightly in October, reflecting decreases in awards for public works and utilities. The 86,000 housing units started in October brought the 10-month total to 943,000 compared with 1.2 million for the same period last year. Value of work done on industrial construction in October declined for the first time since early 1950.

Defense housing program, authorized by Congress in September, started rolling on Dec. 3 with Federal Housing Administration field offices taking applications from builders who want a piece of the work to be done in critical areas. So far the government has planned some 50,000 units to be built with the aid of easier credit terms in about 90 defense production and military areas.

Eric Johnston, recently replaced as Economic Stabilization Administrator by Roger Lowell Putnam, stated in his final report that controls must continue if the fight against inflation is to be won. He urged: (1) a balanced, pay-as-we-go budget, (2) credit restrictions strong enough to prevent unnecessary expansion of consumer purchasing, (3) allocation policies to assure a flow of raw materials for essential production, and (4) price and wage controls which hold down costs without disrupting production.

Department of Defense obligated $12.3 billion for the procurement of major equipment, supplies, military construction and expansion of production facilities during period July through October. Of this, $600 million was for construction. Obligations for the 16-month period following the Korean invasion totaled $48.3 billion, of which $2.4 billion was for construction.

TRUSCON...a name you can build on



Truscon "O-T" Joists assure better light-weight floors

Despite their comparatively light weight, Truscon "O-T" Open Truss Steel Joists are extremely strong and rigid. They are ideal for floor and roof requirements in all types of buildings regardless of location. The cost in small structures is practically the same per square foot as that in skyscrapers. Fire-resistant construction is thus made available in many buildings where such construction would otherwise not be possible from the cost standpoint.

Features include: Great rigidity through integral welding of wide tee-shaped top and bottom chords and a strong, round continuous web member. High fire resistance. Simple to install, being completely shop fabricated and reaching the job ready for placing. Each joist is "place-marked," greatly simplifying and speeding construction. Open web allows passage of pipes and conduits in any direction. See Truscon's complete catalog in "SWEET'S" for full information on all Truscon *Mark of Merit* Products.

TRUSCON MARK OF MERIT PRODUCTS

TRUSCON® STEEL COMPANY Youngstown 1, Ohio

Subsidiary of Republic Steel Corporation

A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for November stands at Index Number 378, according to the A.G.C. Index. The cost figure for November 1950 was 371. The 1913 average equals 100.

WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 509 for November. One year ago the average stood at 494. The average prices paid by contractors for basic construction materials for November stands at Index Number 292. The average a year ago stood at 290. The 1913 average, again, equals 100.

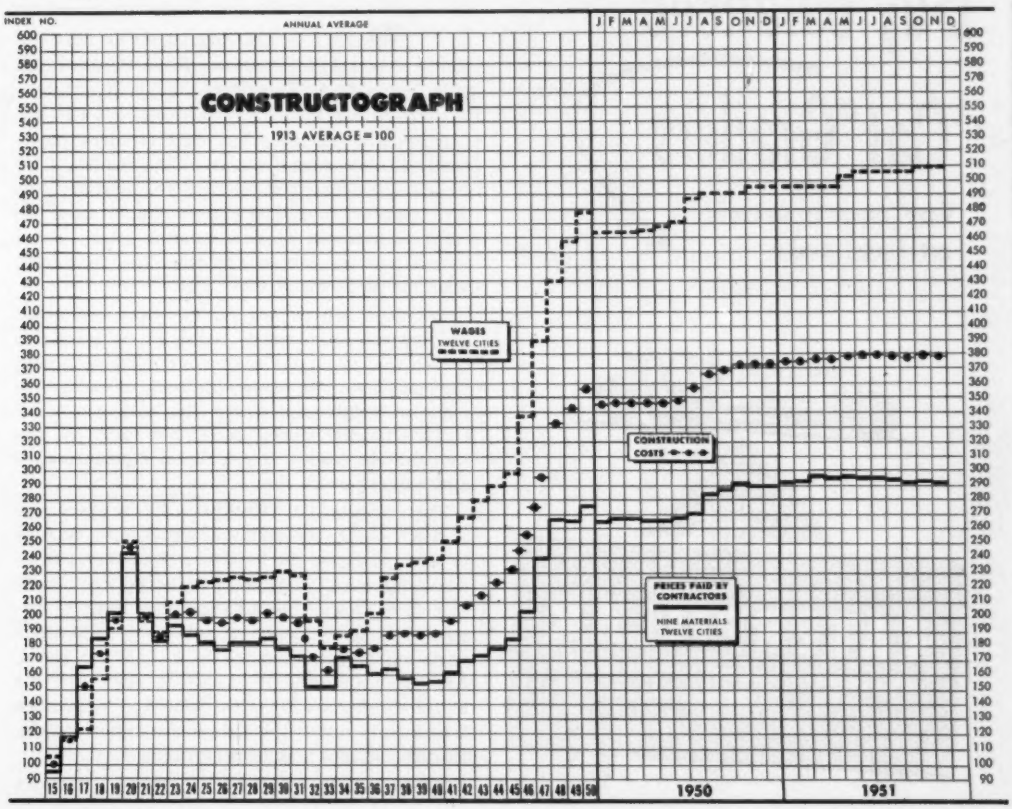
CONTRACT AWARDS IN 37 STATES

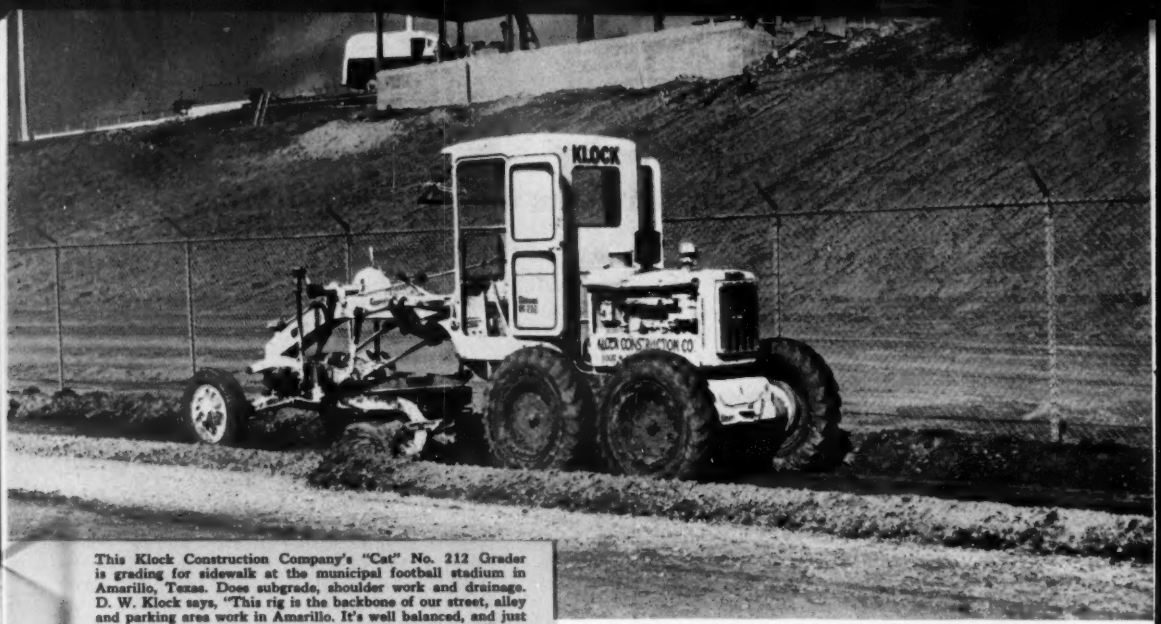
The volume of contracts awarded during October (Index Number 210, based on 1936-1938) is a decrease of 8 points from September, and a decrease of 22 points from October 1950.

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 47 weeks of 1951 totaled 36,975,318 cars. For the same period in 1950, loadings amounted to 35,272,854 cars. This represents an increase of 5 per cent.

● Wage, Material Price and Construction Cost Trends

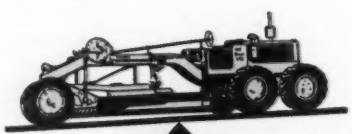

INDEX NO.
ANNUAL AVERAGE
J F M A M J J A S O N D J F M A M J J A S O N D
CONSTRUCTOGRAPH
1913 AVERAGE = 100
WAGES TWELVE CITIES
CONSTRUCTION COSTS
PRICES PAID BY CONTRACTORS
NINE MATERIALS TWELVE CITIES
1950
1951



This Klock Construction Company's "Cat" No. 212 Grader is grading for sidewalk at the municipal football stadium in Amarillo, Texas. Does subgrade, shoulder work and drainage. D. W. Klock says, "This rig is the backbone of our street, alley and parking area work in Amarillo. It's well balanced, and just the right size. Going to buy another just like it this year!"

Buy balanced "Cat" Graders

for more work at less cost



SPEED
WEIGHT
POWER

CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES • TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

The "Cat" No. 212 Grader shown here will never be a wallflower. Owner D. W. Klock, Amarillo, Texas, says, "This rig's so well balanced, maneuverable and fast, the boys all want to run it!"

Balance is the secret of "Cat" Graders' popularity with owner and operator alike. "Caterpillar" builds each Motor Grader from the ground up as an individual unit. The correct weight, plus the right horsepower, plus rated work speed – these things add up to *balanced* machines that solve your job problems at lower cost.

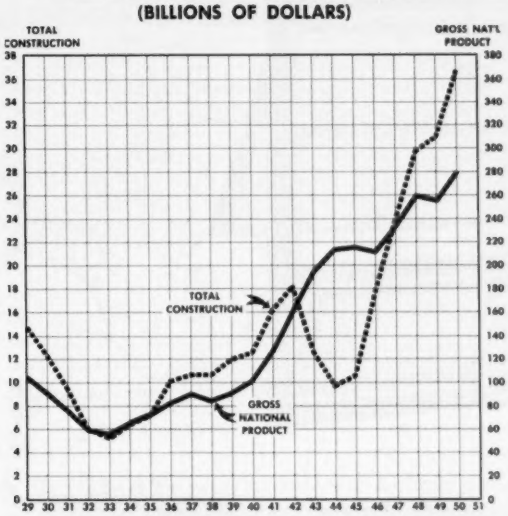
Informed buyers are finding that *assembled* graders are often poorly balanced. It stands to reason that when one engine or one frame is used for more than one model, the best use cannot be made of weight and power. But balanced "Cat" rigs are neither muscle-bound nor jumpy on the job, and cut costs through superior performance and longer service life.

There's a size "Cat" Motor Grader for every type of work – with the stamina, punch and balance to do a particular job best. And don't forget what world-famous "Caterpillar" dealer service means in cutting down time to the bone. Their representatives have plenty of job-savvy, and their parts replacement service is without an equal. Ask your "Caterpillar" dealer to show you his Motor Graders' bonus features. And remember that quality under the hide doesn't show on the outside – it shows up in performance.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

● TOTAL Construction compared with Gross National Product

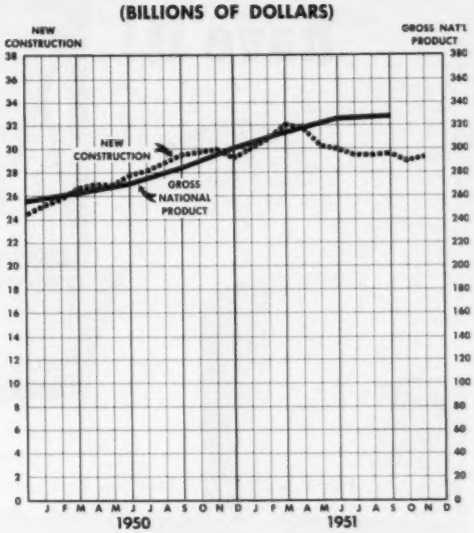
(BILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPT. OF COMMERCE

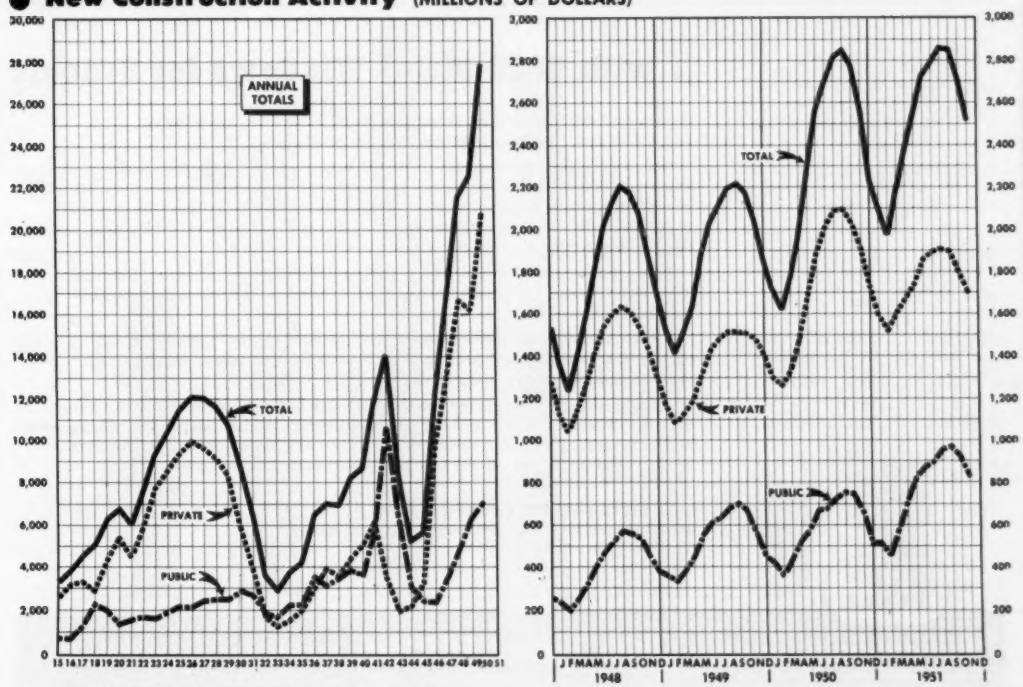
● NEW Construction compared with Gross National Product*

(BILLIONS OF DOLLARS)



** Seasonally adjusted at an annual rate*

● New Construction Activity (MILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

the eyes have it!

SALINA HIGH SCHOOL, SALINA, KANSAS • JOSEPH W. RADOTINSKY, ARCHITECT • BAUMANN & BORDEN CONSTRUCTION CO., CONTRACTORS

...with CECO Metal Windows for Schools

As you read this your eyes are doing more than seeing—they are bringing into action your entire body—nerves, muscles, circulation.

And you are burning up energy—piling up fatigue in direct proportion to the amount of light available for vision. Medical science has proved eyestrain has a marked effect on the well-being of all. So it's necessary then that seeing be done with ease and in comfort. That's why proper illumination is all-important and there's where metal windows come in, for they admit more daylight than any other window.

Add to that fact, most days in most of the country are overcast in winter. Here again metal windows meet the need because only metal windows provide enough daylight for good vision on overcast days.

So there's good reason for the swing to Ceco Metal Windows in modern school construction. Besides giving more light for better sight, they permit distant vision so vital for relaxing young minds.

There are other advantages in Ceco Metal Windows—such as controlled ventilation—won't rot or warp—cost less to install, clean and maintain. And because Ceco Windows are better engineered they fit better—last longer. That's why we say—"When you use Ceco Windows you know you use the very best—you're sure of savings, too."

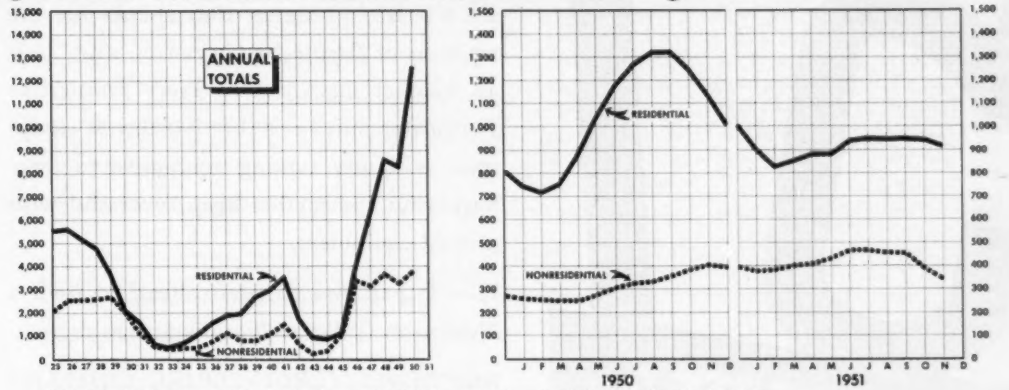
CECO STEEL PRODUCTS CORPORATION
General Offices: 5601 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

CECO STEEL

In construction products **CECO ENGINEERING** *makes the big difference*

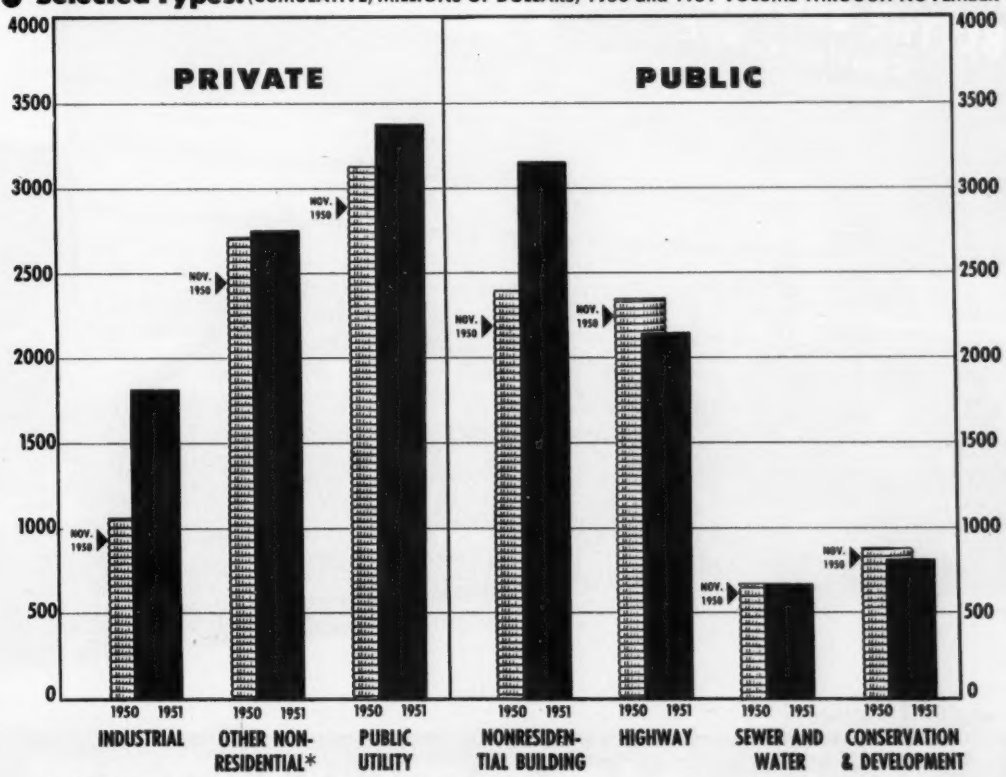
NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building* (MILLIONS OF DOLLARS)



* *Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.*

● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1950 and 1951 VOLUME THROUGH NOVEMBER



* *Includes commercial, institutional, and social and recreational building*

57

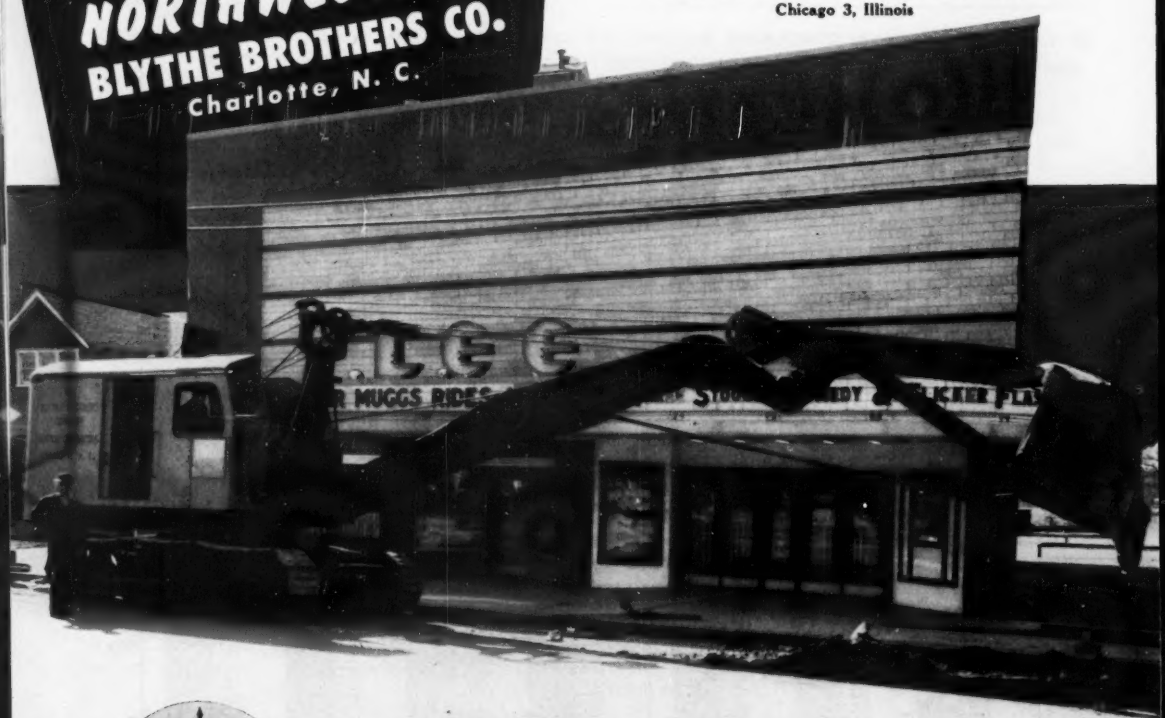
A NUMBER THAT SPEAKS FOR ITSELF!

AND it's a number that speaks for the opinion of Blythe Brothers Co., also. It is an indirect guarantee to every prospective Northwest purchaser that Northwest equipment is money making equipment to own. Successful contractors keep successful with proved equipment.

It will pay you to plan ahead to own a Northwest. Talk to a Northwest man about it.

NORTHWEST ENGINEERING COMPANY
1502-8 Field Building, 135 South LaSalle Street
Chicago 3, Illinois

57 NORTHWESTS for BLYTHE BROTHERS CO.
Charlotte, N. C.



WEIGH ALL THE ADVANTAGES

NORTHWEST

CRAWLER and TRUCK MOUNTED SHOVELS • CRANES • DRAGLINES • PULLSHOVELS

For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

THIS table indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from August 15, 1949 to October 15, 1951.

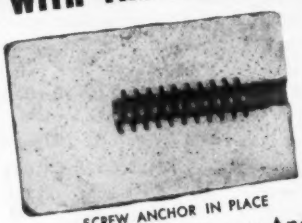
They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

The Bureau of Labor Statistics surveys 10 key cities every month and 24 other large cities quarterly. Prices are obtained on food, fuel, apparel, house furnishings and miscellaneous goods and services. Rental information is obtained quarterly only for all cities. The computations are based on the indexes for the years 1935-39, which are taken as the average of 100 points.

	1949			1950			1951		
	AUG. 15	SEPT. 15	OCT. 15	AUG. 15	SEPT. 15	OCT. 15	AUG. 15	SEPT. 15	OCT. 15
Average	168.8	169.6	168.5	173.0	173.8	174.8	185.5	186.6	187.4
Birmingham, Ala.	171.1	171.8	170.3	177.7	179.7	179.1	190.5	191.4	196.0
Mobile, Ala.	.....	169.2	.....	.....	172.9	.....	.....	185.6	.....
Los Angeles, Calif.	166.8	167.1	166.5	169.1	169.5	171.3	186.6	187.2	187.9
San Francisco, Calif.	.....	173.0	.....	.....	176.0	.....	.....	184.4	.....
Denver, Colo.	.....	.....	164.6	.....	.....	172.8	.....	.....	191.2
Washington, D. C.	166.0	.....	.....	168.9	.....	.....	180.8	.....	.....
Jacksonville, Fla.	.....	176.5	.....	.....	182.4	.....	.....	192.0	.....
Atlanta, Ga.	172.3	.....	.....	176.6	.....	.....	193.1	.....	.....
Savannah, Ga.	.....	.....	173.4	.....	.....	181.6	.....	.....	197.8
Chicago, Ill.	174.4	175.8	174.4	180.2	179.8	180.4	190.9	191.8	193.5
Indianapolis, Ind.	.....	.....	172.1	.....	.....	179.8	.....	.....	189.7
New Orleans, La.	173.8	.....	.....	178.7	.....	.....	188.9	.....	.....
Portland, Me.	.....	164.9	.....	.....	167.9	.....	.....	178.6	.....
Baltimore, Md.	.....	174.0	.....	.....	178.1	.....	.....	190.5	.....
Boston, Mass.	163.8	165.4	164.1	168.4	168.2	169.4	177.2	177.8	179.3
Detroit, Mich.	169.9	170.4	168.7	175.1	175.4	177.7	188.5	189.0	190.2
Minneapolis, Minn.	.....	168.3	.....	.....	173.2	.....	.....	183.1	.....
Kansas City, Mo.	.....	.....	161.1	.....	.....	167.4	.....	.....	180.4
St. Louis, Mo.	.....	168.9	.....	.....	175.0	.....	.....	186.2	.....
Manchester, N. H.	.....	.....	169.3	.....	.....	176.2	.....	.....	187.0
Buffalo, N. Y.	.....	.....	167.4	.....	.....	173.0	.....	.....	186.9
New York, N. Y.	166.8	167.5	165.9	168.0	170.3	171.0	180.9	182.5	183.0
Cincinnati, Ohio	168.8	170.8	168.7	174.4	175.5	176.0	185.3	186.8	187.0
Cleveland, Ohio	171.6	.....	.....	176.0	.....	.....	189.1	.....	.....
Portland, Ore.	.....	.....	173.6	.....	.....	183.4	.....	.....	195.8
Philadelphia, Pa.	168.7	169.6	168.9	172.3	173.6	173.8	185.4	186.1	186.7
Pittsburgh, Pa.	172.4	172.3	171.1	176.4	177.7	179.2	188.8	190.0	191.2
Scranton, Pa.	169.5	.....	.....	171.8	.....	.....	182.5	.....	.....
Memphis, Tenn.	.....	172.7	.....	.....	177.2	.....	.....	189.0	.....
Houston, Tex.	170.4	171.4	172.0	177.9	179.8	179.9	193.0	194.1	194.4
Norfolk, Va.	170.2	.....	.....	177.2	.....	.....	188.6	.....	.....
Richmond, Va.	.....	.....	164.9	.....	.....	171.6	.....	.....	183.8
Seattle, Wash.	170.8	.....	.....	175.2	.....	.....	190.9	.....	.....
Milwaukee, Wis.	166.9	.....	.....	175.7	.....	.....	192.3	.....	.....

ENGINEERED TYING DEVICES, ANCHORAGES and ACCESSORIES for CONCRETE CONSTRUCTION

THE RICHMOND SCREW ANCHOR AND BOLT WITH THE THREAD THAT'S CAST IN CONCRETE

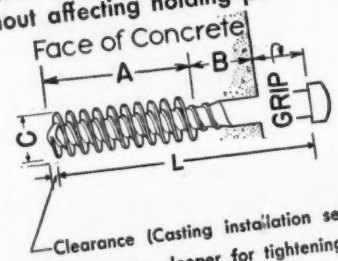


SCREW ANCHOR IN PLACE

SCREW ANCHOR BOLT IN PLACE

The Richmond Screw Anchor and Bolt Assembly is a tried and proven device for anchorage to concrete. Bolt is strongly anchored and can be removed and replaced from the cast-in-place flat coil screw anchor without affecting holding power.

SIZE (Dia)	DIMENSION A	B	C
⅜"	1½"	2½"	¾"
½"	2"	3"	⅞"
⅝"	3"	3¼"	1⅛"
¾"	4"	3½"	1¼"
⅞"	5"	3¾"	1⅜"
1"	6"	4"	1½"
1¼"	7"	5½"	2"
1½"	8"	7"	2¼"



Tests have proven that Richmond SCREW ANCHORS embedded to specified depths in 2,000-lb. concrete more than develop the full rupturing strength of the ANCHOR BOLT in tension.

YOU KNOW I'M THINKIN' OF GETTIN' HITCHED.
LOOK PAL—KNOWIN' YOU—IF IT'S GOIN' TO STICK YOU DON'T NEED A PREACHER—YOU NEED ONE OF THESE HERE RICHMOND SCREW ANCHORS.
SCREWY
TY
INSIST ON RICHMOND
...AND BE SURE IT'S RICHMOND!
Richmond
SCREW ANCHOR CO., INC.
816-838 LIBERTY AVENUE · BROOKLYN 8, N.Y.

Get your "Screwy" or "TY" button—write to John Cushing at Richmond, 816 Liberty Ave., Brooklyn 8, N. Y.

RICHMOND KNOW-HOW—DEPENDABILITY—SERVICE—ESTIMATES & JOB PLANNING

Sidelights for Contractors

By John C. Hayes, *Legal Adviser*

Taxes

Revenue Act of 1951.—While the Revenue Act of 1951 increases individual and corporate income tax and some excise tax rates, in addition to closing certain loopholes, not all of

More on Tax Law —page 26

its provisions are unfavorable to the taxpayer. Benefits accorded by the Act include: the non-recognition of gain realized on sale of a taxpayer's principal residence where another residence is purchased within a year (other than to the extent that the selling price of the old residence exceeds the purchasing price of the new); increased medical expense deduction allowed a taxpayer after he or his spouse have reached age 65; more lenient treatment of an unmarried taxpayer qualifying as head of a household; permission for an individual taxpayer to change his election to take, or not to take, the optional standard deduction after the filing of his return, and also permission to married taxpayers to elect to file joint returns after filing separate returns; and an increase to a maximum or less than $600, from the previous less than $500, in the amount of gross income permitted to a dependent of a taxpayer. An additional benefit, of particular interest to contractors, is the amendment to the excise tax on transportation of property to exempt expressly material excavated in the course of construction work and transported to any place within, or adjacent to, the boundaries of the project.

Accrual of Income.—Where a government department reversed its earlier position and determined that a cost-plus-fixed-fee contractor was entitled to be reimbursed for state corporate income taxes, the Tax Court held that such reimbursement should be reported by the contractor, on the accrual basis of accounting, as income in the year of the department's favorable ruling rather than in the year reimbursement was actually received or in the year the taxes were paid. The department's ruling, the court thought, was the event fixing the contractor's right to reimbursement.

Distraint for Taxes.—A district court has decided that joint bank accounts held by a husband and wife as tenants by the entireties were not subject to distraint by a collector of internal revenue for income taxes due only from the husband. And in a second case, a collector of internal revenue was enjoined by a district court from distraining on the property of a family partnership to collect the tax liability of only one partner.

Withholding Taxes.—After a contractor on a state public works project had defaulted, the bonding company, under its bond for labor and materials, furnished funds to meet the contractor's payroll by giving a bank on each pay day a draft to cover the payroll. Thereupon, a district court, ruled, the bonding company had control of the wages and became "the employer" with the duty to withhold, as imposed by the internal revenue statutes.

Gifts in Trust.—The Tax Court has held that a gift in trust for minor children by a parent well able to support them is a transfer only of a future interest and thus not entitled to any exclusion from gift tax, although the income and principal could be disbursed at the trustee's discretion and the children, or the guardian if one was appointed, could terminate the trust and take the principal and income.

Public Contracts

Renegotiation.—A district court has upheld the government's right to proceed to collect from a war contractor excessive profits determined to be due by the War Contracts Price Adjustment Board, despite a pending petition filed by the contractor for review by the Tax Court of the board's decision. The Court stated that a refund could be ordered by the Tax Court, if it should find in favor of the contractor after the latter had made payment. In keeping with the express provision in the 1951 Renegotiation Act, the court felt that interest payable by contractors on unpaid renegotiation debts under the 1943 Renegotiation Act should be charged at a 4% rather than a 6% rate. However, on this latter point, a circuit court of appeals in another case has reached a contrary conclusion, upholding the 6% rate of interest on excessive profits for years prior to the adoption of the 1951 Act.

Examination of Books.—Under a statute signed by the President on October 31, 1951, the General Accounting Office is authorized to examine the books of contractors receiving negotiated government contracts.

Assignment of Claims.—Under a decision by the Court of Claims, a government contractor's fraud in presentation of a termination claim is no bar to recovery by the contractor's assignee of a valid part of the claim. The court expressed the view that the Assignment of Claims Act of 1940 modified any general doctrine that everyone holding under a fraudulent contractor is barred by his fraud, since the act's purpose was to encourage finance companies to lend money to contractors with the Government.

Disputes Clause. — The Supreme Court again has heard arguments and has before it for decision the question of the finality which must be given a department head's decision under the standard form of government construction contract. The contractor's contention is that the Court of Claims properly upset the adjustment of a department head on the basis of a finding that the method of computing the rental of equipment and repair were arbitrary and capricious and thus grossly erroneous. The government contended that such a finding is not sufficient and that there must be fraud or mistake so gross as to imply bad faith. Article 15 of the standard contract states that a department head's decision is final on disputes involving a question of fact; and the government argued that the amount of an equitable adjustment is a factual question.

Here's how
TOURNADOZER
speeds roadwork

DELIVERS AGGREGATES

Mississippi State Hwy. Dept. couldn't operate their asphalt plant efficiently without their C Tournadozer, according to J. F. Calhoun, Asst. Southern District Engineer. "If we didn't have the 'C' handling all our feeding work (on dozing distances of 300 to 600' one-way), it would require 2 crawlers to assure maximum plant production," adds the Plant Supt. Job studies show that after 3½ years and over 6000 working hours, mostly in sand and gravel, Tournadozer is still running on original tires . . . further, overall efficiency has been 90%.

Big rubber tires . . . 19 m.p.h. speed give you a roadwork combination that's ready for *action* anywhere . . . anytime. Whether assigned to production dirtmoving, maintenance, or emergency pulling, pushing or dozing assignments, Tournadozer can be dispatched at a moment's notice over highway or cross country to handle scattered jobs. It goes right to work . . . in any kind of weather . . . through mud, sand, or snow. This high-speed, rubber-tired flexibility, with no crawler tracks to maintain or replace, gives you the most effective, economical equipment for use in both your construction and maintenance operations.

With either its standard bulldozer blade, interchangeable Angledozer, or V-type Snow Plow, plus its ability to pull a Rooter, Sheepsfoot Roller, or Carryall Scraper, you get benefits all year on your original investment. It has fast, 4-wheel drive, constant-mesh transmission for instant gear change without loss of momentum, 4-wheel disc air brakes with 2822 sq. in. braking area, and fast, easy electric control. Optional torque converter is available.

Check these actual job performance reports on jobs like yours, then contact your LeTourneau Distributor for all the facts . . . there's no obligation.

LETOURNEAU LET EQUIPMENT

R. G. LeTOURNEAU, INC., Peoria, Illinois

HIGH-SPEED, RUBBER-TIRED EXCAVATING • HAULING • LIFTING EQUIPMENT

Also **TRACTOR EQUIPMENT** *shown opposite . . .*

BACKFILLS, LEVELS, MAINTAINS DUMPS

To backfill 2¼ miles of 42" and 54" roadside water mains for Detroit Dept. of Water Supply, Sugden & Sivier, Inc., Tournadozer dozed 19,500 yds. into 10' and 11' trenches. Rig moved 200 lineal ft. daily, cutting clean-up cost by other methods 50%, according to G. L. Sivier, Vice Pres. . . . also leveled 450,000 yds. of sand, clay, maintained 270,000-yd. expressway construction dump.

MAKES EMERGENCY ROAD REPAIRS

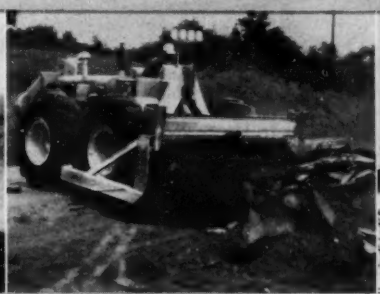
To clear heavy mountain-top landslide from a main highway near Vista, Colombia, Zona de Bogota drove their rubber-tired C Tournadozer over 103 miles through heavy traffic in 7½ hrs. Rig moved 4000 yds. of rock and wet earth and had road opened to traffic in only 13 hours. Mobile, one-man Tournadozer saved many additional hours traffic delay and use of large crews of hand labor.

PUSH-LOADS SCRAPERS

C Tournadozer with 4 C Tournapulls were used to build a 450,000-yd. swamp fill for new Washington-Annapolis expressway by Nello L. Teer Co. of Durham, N. C. Tournadozer push-loaded 12 pay yards of silt-sand into each Tournapull in 15 to 30 sec. Rig also push-loaded crawler-scrapers on a second cut 1½ mi. away . . . shuttling back and forth between the cuts several times a day.

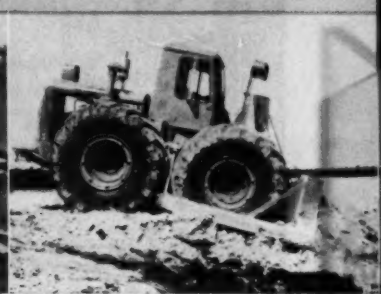
PIONEERS ROADWAY

Working on rough terrain in 105° F. temperatures, modern Tournadozer set a fast construction pace pioneering a new highway across remote desert country of Baja California. This Mexican Federal Govt. project called for movement of 190,000 cu. yds. material per month. Low-pressure tires, air-foam cushion seat, fingertip control, reduce operator fatigue, increase safety when working heavy schedules.



STRIPS BLACKTOP

Before resurfacing U. S. 112 for Michigan State Hwy. Dept., Ann Arbor Construction Co. used a C Tournadozer to strip 2 mi. of 2 to 4" of blacktop from the 20" concrete roadbed. Despite continuous traffic, Tournadozer averaged 480 lineal ft. per day — while the most a backhoe with grader blade could clear was 100' a day. Tournadozer cost averaged 47¢ per sq. yd. for entire job.

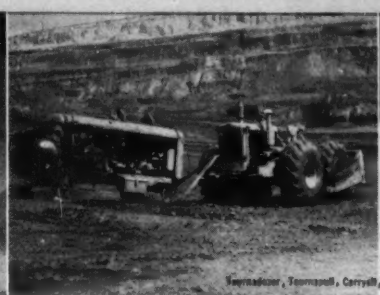


CLEARS, GRADES LAND

C Tournadozer clears trees, underbrush . . . trims side slopes . . . and assists four C Tournapulls building 50 earthfill irrigation dams for Cuban firm, Cia. Azucarera Vertientes. As each dam is finished, the mobile LeTourneau rigs move under their own power to next site miles away. They originally drove over highway 331 miles from Havana to Cespedes in only 22 hours. (ave. 16 m.p.h.).

MATERIALS HANDLING

Here, "C", working on concrete floor, stockpiles bulk nitrate at Iquique, Chile warehouse. 606 tons hourly are fed to dock conveyor system for delivery to ships. Unit can service a number of roadside pits or maintenance stockpiles . . . speeding between jobs at 19 m.p.h. without delay for trailer loading, unloading. Big, soft-cushion tires cross curbs, railroad tracks, travel any road surface.



PULLS HEAVY EQUIPMENT

Skidding heavy compressor is one of many maintenance jobs Tournadozer handled at Interstate Iron Co.'s mines near Calumet, Minn. The "C's" big diesel engine and 4-wheel drive develop plenty of drawbar pull for heavy loads. "C" pulls Carryall-Scrapers, Sheepsfoot Rollers, Rooters, trailers, air compressors; skids light generator plants, poles, piling. Can push heavy trucks, switch cars.

Tournadozer, Tournapull, Carryall, Angledozer, Bowlor—Trademark Reg. U. S. Pat. Off. C1419c

PLOWS SNOW

In 34° zero weather, a Rural Municipality in Manitoba cleared over 600 mi. of roads and farm lanes in 142 hrs. Drifts were 3 to 8 ft., some almost solid ice. Tournadozer mounted a LeTourneau 12'3" x 6'6" V-type Snow Plow. High speed "blasts" drifts, throws snow well back. Big tires, adjustable runner shoe protect plowed surface. Fast travel time means more plowing time, better emergency service.

SHEEPSFOOT ROLLERS

accepted on U. S. Engineer Corps work. Single or multiple units . . . ground-bearing pressures to 935# per sq. in. loaded, 427# empty.

ROOTERS

PCU operated, gives fast, low-cost breakage of layered rock, other tough materials, beats blasting costs.

CARRYALL SCRAPERS

8 to 23 heaped yards for all makes of crawler tractors with PCU's. Fast-loading, positive ejection.

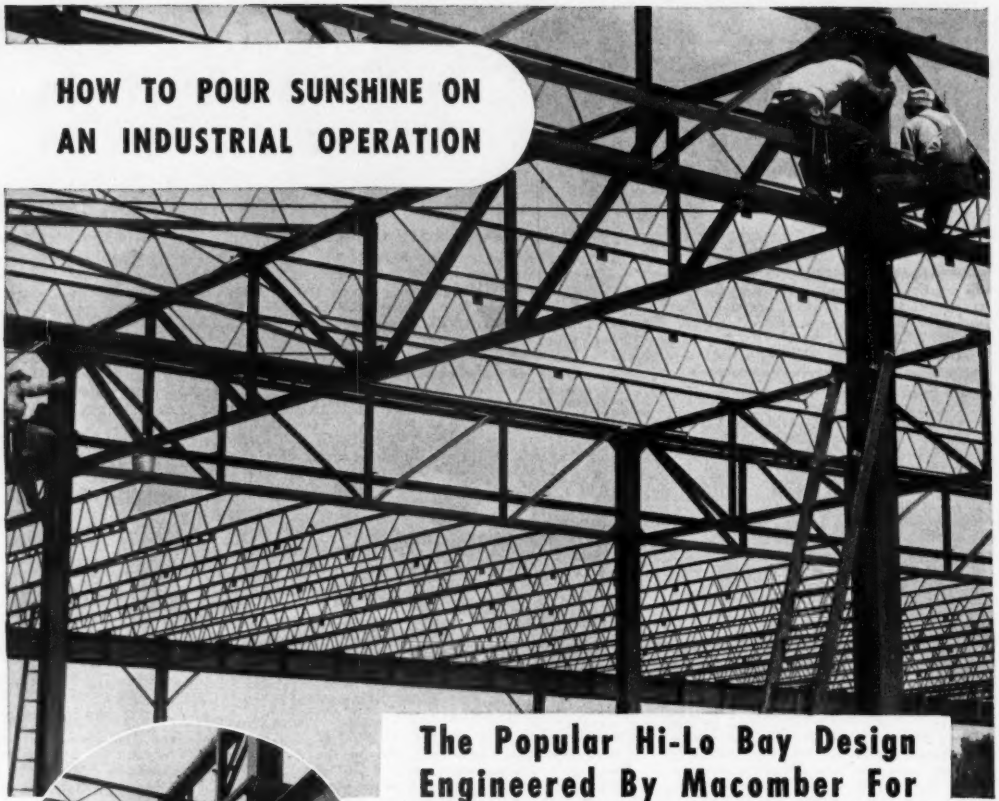
BULLDOZERS

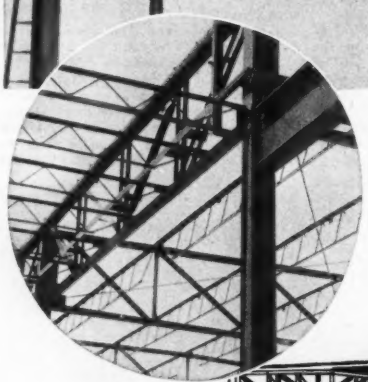
for D8 and HD19. Angledozers for D7 and D8. Dirt-movers consider them most rugged and efficient available anywhere.

POWER UNITS

have simple, cone-clutch, true 1-pedal steering. Sure-grip brakes to give you accurate control. Adapt to wide range of heavy-duty crawler tractors.

HOW TO POUR SUNSHINE ON AN INDUSTRIAL OPERATION

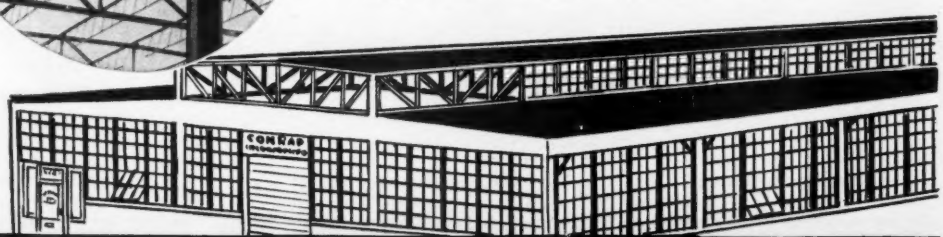




The Popular Hi-Lo Bay Design Engineered By Macomber For Industrial Plant Construction

Here's sunlight for sale—sunlight from all four sides of plant and monitor roof.

All parts are standardized products ready to be fabricated to your client's factory dimensions. Tell us out-to-out measurements and clear height under trusses. Single units or in series for wide plots. Write.



STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

Harry A. Dick

HARRY A. DICK is mourned with genuine grief by members of The Associated General Contractors of America. He was president of the association during 1945. Throughout his life he exemplified the finest of the qualities of skill, integrity and responsibility.

In his personal life he was a true gentleman. He was a devoted husband and father. He was a loyal and warm friend, with a host of friends throughout the country. He was respected and admired by all who knew him.

In his business life he was an able leader, becoming president of the Gilpin Construction Co., president of the General Construction Co., and vice president of the Oregon Shipbuilding Corp. He and the companies with which he was identified enjoyed the best of reputations. He was also one of the founders of the Portland Labor Management Committee which performed outstanding work.

Harry Dick was a substantial citizen in the construction industry for whose betterment he worked tirelessly through the A.G.C. He held all of the offices there are in the Portland, Oregon, Chapter and was president in 1938 and 1939. He held many positions in the national A.G.C. before becoming president in 1945.

He was keenly interested in all phases of A.G.C. activity which operate for the benefit of contractors, the construction industry and the public. His judgment was always sound, and he had a keen perception of what should be done for the future. He had a quiet, modest manner in his leadership.

His pride and respect for the A.G.C., as reported in his obituary on page 49, was shown by the A.G.C. emblem which was in his lapel on his interment. He was the kind of a man whose memory will be kept and whose example will be followed in the A.G.C. for many years.

Ceiling Price Regulation 93

THE CONSTRUCTION industry has reason to be thankful to the Office of Price Stabilization for the realistic approach taken in Ceiling Price Regulation 93 (Construction and Related Services and Sales of Installed Materials).

The problems of designing a price regulation to fit all of the diversified operations of the industry which performs more than $36 billion worth of new construction and maintenance and repair operations in all parts of the country for all kinds of purposes and under a myriad of different conditions are almost impossible.

As the OPS pointed out, it could hardly leave an industry of this size and importance to the national economy outside of price regulation, or subject to regulations which were not realistic.

While the regulation is complex when read in its entirety, its operations are relatively simple. There are these principal points:

- Contractors, generals and subs, are permitted to charge actual costs of labor, equipment, materials and overhead.
- Profit is limited to 9/10 of the highest percentage markup for similar work in the base period, but the OPS estimates that with higher labor and materials prices this allows dollar profits equal to the pre-Korean level.
- Reports do not have to be filed with OPS for lump sum or fee types of contracts; only for installing materials on an hourly price basis which includes profit.
- For most construction, contractors only have to keep records to prove the correctness of their prices for duration of the Defense Production Act as amended and two more years.
- Generally, the regulation does not compel changes in business practices, cost practices, or methods established in the industry.

The Associated General Contractors of America, and other associations in the industry, worked closely with OPS and furnished information about the industry so that this realistic approach could be taken.

Supreme Court Decision

THE DECISION of the United States Supreme Court, reported on page 24, raises serious questions of how the business of contracting and how the public interest will be affected.

The court interpreted the disputes clause of the standard government contract form to mean that the determination of the department head is final, and that there can be no recourse to the courts in disputes over findings of fact unless fraud on the part of the government can be proved.

The decision appears to leave contractors without the possibility of judicial review of findings of fact by government departments no matter how the findings are arrived at, aside from fraud.

Much study will have to be given to the subject before proper recommendations can be made either to government departments or to the Congress. The Supreme Court's decision appears so final as to leave no room for further judicial action on the subject.

It is doubtful whether or not, in view of the decision, government departments could take administrative action with respect to this subject without some legislation by Congress.

While some contractors operating under contracts already signed probably will suffer hardships from the decision, the long-range problem, and the one on which Congress could be expected to act, is how to offset the effect of the decision on the public interest.

An action which creates an additional, and difficult to assay, hazard on contracting for public bodies almost inevitably will be contrary to the public interest. The Associated General Contractors of America, and other associations, have been cooperating with government agencies and others to bring about conditions under which hazards are reduced or brought into foreseeable limits so that construction can be executed as economically as possible.

The decision and sharp dissents deserve careful reading by all members of the industry. It is being studied by the A.G.C., which will report its recommendations to members in the future.

Industrial Building 2700 tons structural steel fabricated.

Buildings and Bridges grow

under the skilled direction of Allied Fabricating and Erecting Experts

● They start to "grow" in one or more of the 3 Allied Plants where speed and accuracy are the shop production words that Allied men know so well.

And on location, erecting crews take over with special timesaving techniques that get the structure up in a hurry and completed on schedule.

If you have plans and specifications on a building or a bridge, send them to us to be estimated. Even if you are only considering such projects and they are in the "talking stage," consult our technical experts. They can help you.

New Price Regulation Tailored To Fit Construction Industry

- Realistic Approach to Almost Impossible Problem
- Applies to Most Contracts Except Defense Types

» A REALISTIC approach to an almost impossible problem was taken by the Office of Price Stabilization in Ceiling Price Regulation 93 (Construction and Related Services and Sales of Installed Materials) which became effective Nov. 20.

Generally, the regulation applies to all new construction and maintenance and repair operations—estimated at $86.8 billion in 1950—except defense contracts. Because of the industry's size and importance to the national economy, OPS stated: "A program of price stabilization, therefore, should include action designed to stabilize prices of construction services."

For general contractors, the regulation applies to most operations except defense contracts. It permits contractors (generals and subs) to charge actual costs of labor, equipment, materials and overhead and 9/10 of the highest markup for profit for similar work in the base period of July 1, 1949, through June 24, 1950.

For most types of operations reports to OPS are not required, although the regulation requires that records be kept for the life of the Defense Production Act as amended and two years thereafter.

The regulation was tailored to fit the particular needs of the construction industry. Preliminary indications have been that contractors have encountered few difficulties.

The question most frequently asked has been how unit-price contracts for highway and other work should be considered. OPS considers these the same as lump-sum contracts.

A.G.C. Action

The Associated General Contractors of America and most other associations in the industry operated on the basis that when OPS indicated construction was to be brought under price regulation, all possible information about the industry should be presented so that a realistic regulation could be drafted.

Two meetings were held of the OPS industry advisory committee, in July and August, at which the A.G.C. was represented by H. C. Turner, Jr., New York; W. Murray Werner, Shreveport, La.; F. W. Heldenfels, Jr., Corpus Christi, Texas; Ben P. Griffith, Los Angeles; and Leet M. Denton, Detroit.

Numerous meetings were held by A.G.C. staff members with OPS officials, and with other association executives.

Pricing Theory

In its Statement of Considerations, the OPS said: "In general, the pricing theory of this regulation permits the seller of construction services to apply to his current costs of labor, materials and equipment (not in excess of rates and ceilings approved or established by the Wage Stabilization Board and OPS), 9/10 of the highest percentage markup for profit which he had in effect for a comparable sale during the base period. He may apply to those current costs, his highest base period percentage markup for *overhead* without reduction.

"The base period percentage markup for *profit* is reduced by 10%, because it has been determined that costs of construction labor and building materials have risen by 10% and 12% respectively since the outbreak of hostilities in Korea. It is estimated, therefore, that 9/10 of the pre-Korean percentage markup for profit will, when applied to these increased costs, result in approximately the same dollar and cents realization of profit as that which the seller of construction services enjoyed during the base period.

"The Director finds therefore that the ceiling prices established by this regulation are generally the equivalent of pre-Korean prices plus cost increases to date."

Meets Specified Needs

The history of price regulation was cited by OPS. The General Ceiling Price Regulation was issued Jan. 26, 1951, fixing ceiling prices for most services and commodities at the highest price charged by the seller during the period from Dec. 18, 1950, to Jan. 25, 1951. CPR 34, for services, was issued on May 11, and "to the extent of its applicability" superseded the GCPR in the construction field. OPS continued:

"Although not specifically designed to meet the needs of the construction industry, CPR 34 did offer an advantage over GCPR in that it provided for the use of a pricing method. Soon after the release of CPR 34, however, it became evident that the pricing theory of that regulation was not realistic as far as the construction industry was concerned.

"To reconcile the traditionally slender margins and great element of risk peculiar to the operations of a large portion of the construction industry with the necessity, under CPR 34, to absorb labor and (in most cases) material cost increases, was difficult in the extreme. Representatives of the industry contended that compliance with CPR 34—if not impossible—would, at the very least, involve great hardship . . .

Contracting Variables Cited

"Industry spokesmen emphasized that a particular service is rarely supplied by a contractor more than once in the same form and under the same conditions. It was further emphasized that varying conditions of location, terrain, weather and other factors directly influence the price that must be charged for a construction service . . .

"Because of the nature of the industry . . . it has been considered desirable to devise a method of pricing which will permit sellers of construction services to refer to current costs of labor and materials in pricing their individual services. This regulation, therefore, is issued to meet the specific needs of the construction industry. New or supplementary regulations tailored to the needs of the specialized branches of the industry will be issued if the need proves substantial or reasonable . . .

"In general, this regulation does not operate to compel changes in business practices, cost practices, or methods established in the industry. To the extent that such changes are involved, the action has been found necessary to prevent circumvention or evasion of this regulation."

Supplemental Allotments Made by DPA

- More 1st Quarter Grants to Help Schools, Hospitals, Highways

» SUPPLEMENTAL allotments of controlled materials to "urgent" programs for the first quarter of 1952, announced Nov. 24 by the Defense Production Administration, provide for the continuation of many construction projects and the start of a substantial number of others, including 50 hospitals and 200 schools.

The additional allocations, made from DPA's reserve to partially meet some of the urgent appeals by claimant agencies, were revealed in a report from Administrator Manly Fleischmann to Senator Burnet R. Maybank, chairman of the Joint Committee on Defense Production.

States Providing More for Schools—Page 30

While the supplemental allotments were far from satisfying claimant agencies' requests, Fleischmann wrote Senator Maybank that "we believe we have covered reasonably well the most urgent situations."

The additional allotments and DPA's comments concerning programs of particular interest to the construction industry are as follows:

Atomic Energy Commission—12,000 tons of carbon steel, 8,500 tons of structural shapes, 850 tons of alloy steel and 1 million pounds of stainless steel, meeting "bulk" of request.

Defense Department—"It was concluded that the construction part of the appeal could be deferred without damage."

Defense Electric Power Administration—Received 6 million pounds of aluminum previously earmarked for the program. "The original program determination for the DEPA was considered sufficient to support the power program of the government."

Defense Minerals Administration—4,600 tons of carbon steel, 3,500 tons of structurals, 1,200 tons of plates, 90 tons of alloy steel, 50,000 pounds of brass mill products, 300,000 pounds of wire mill products, and 75,000 pounds of aluminum.

Defense Solid Fuels Administration—1,238 tons of structurals for the coke oven program. "A project by project study of the appeal showed that the essential work could be continued with some construction rescheduling."

Defense Transport Administration—2,500 tons of structural steel, and 400,000 pounds of wire mill products.

Federal Civil Defense Administration—"Since DPA believes there is no indication that the shelter or control center programs are sufficiently advanced in planning to start construction on a full scale in the first quarter of 1952, the FCDA appeal for this program was not granted in full . . . To get the program started, 1,000 tons of carbon steel were allotted." In addition, 10,000 pounds of aluminum were recommended for antenna towers in the control center program.

Federal Security Agency—"The increase of 15,000 tons of carbon steel, including 1,500 tons of structural steel to the FSA's education program is to further elementary and secondary school construction in areas of the greatest need. With this quantity of material, FSA can permit starting construction on an additional 200 projects that are now needed.

"The total, over-all allocation for elementary and secondary schools in the first quarter 1952 will permit: (1) the continuation of all projects under way (approximately 1,400); and (2) 500 new starts of projects needed in defense areas, for replacement of facilities lost due to catastrophes, and to relieve overcrowding.

"It should be noted that if school authorities will make the maximum use of reinforced concrete type of construction, and if they will temporarily defer the construction of gymnasiums, auditoriums, and similar facilities, the first quarter allotment will on an annual basis support the construction of as many classrooms as will be built in 1951, by far the highest record in the history of educational construction."

For hospitals: "the supplemental allotment of 7,500 tons of carbon steel, including 3,500 tons of structural and 150,000 pounds of wire mill products will: (1) support all projects under way in the first quarter of 1952, (2) provide for approximately 50 new projects needed in defense areas, and (3) permit further repairs to and renovation of existing facilities."

General Services Administration—For several programs including renovation of the Rand-McNally Building in Chicago and the Loeser Building in New York: 3,000 tons of carbon steel, 2,000 tons of structurals, 700 tons of plates, 9 tons of alloy steel, 7,000 pounds of stainless steel, 120,000 pounds of copper wire mill products, 5,000 pounds of copper foundry products, and 5,000 pounds of aluminum.

Housing and Home Finance Agency—Appeal denied.

Bureau of Public Roads—"At first requested quantities of material so that total authorizations would equal the originally submitted requirements. These were subsequently modified downwards.

"The first quarter 1952 program determinations cut back the programs of the Bureau of Public Roads to a level comparable to that of 1949. This reduction was considered necessary in order to free materials, particularly structural shapes and plate, for other urgent programs. Since the original program determination was considered to be equitable in light of the materials situation . . . it was not possible to meet the full appeal.

"An additional 10,000 tons of carbon steel, including 2,500 tons of structurals has been set aside for the BPR. We are studying, in cooperation with the Bureau, the relative desirability of making this allotment direct to the Bureau for its disbursement as against lifting the self-certification ceiling for small projects."

In his letter to Senator Maybank, Mr. Fleischmann said the extension of the self-certification procedure for smaller highway and bridge projects could simplify dealing with more than 40 per cent of such projects.

NPA Building Materials Division—Asked 257,000 pounds of wire mill and 7 million pounds of foundry products, but granted only 150,000 pounds and 1 million pounds, respectively. Copper to go to manufacturers of hardware and plumbing fittings.

NPA Facilities and Construction Bureau—Asked 112,690 tons of carbon steel, 5,126,500 pounds of copper brass mill products for bus bars, and 3,221,000 pounds of wire mill products to speed completion of industrial expansion projects. Entire appeal was under investigation, including question of how much steel is required for scheduled industrial construction.

NPA Water Resources Division—5,500 tons of carbon steel and 4,000 tons of structural steel, for projects including water and sewage plants.

Deny 63% of Applications

AN INDICATION of the types of construction most favored by the National Production Authority's Construction Controls Division in its allocation of materials is apparent in an analysis of the approvals and denials of applications for construction in the fourth quarter of 1951.

This division handles NPA controls over commercial, religious, entertainment and recreational, and community construction, and makes allotments of steel, copper and aluminum under the controlled materials plan for these types of projects.

Public works, including administration buildings, post offices, jails, seawalls, subway and fire stations, received 37% of the 39,640 tons of steel allocated. This was only 27% of the amount requested.

The next closest classification was commercial building, which received 7,797 tons of steel or 20%. However, this was only 13% of that requested.

NPA denied 63% of all the 3,834 applications submitted, which proposed construction valued at more than a billion dollars. The applicants requested 264,857 tons of steel of which only 15% (39,640 tons) was granted. Only 3.6% of the copper requested was allotted and no aluminum.

Indications are that first quarter, 1952, denials would be as numerous.

Other types of construction were stifled in even greater degree. Office buildings, banks and clinics got 19% of the total steel made available but it was only 12% of the amount requested. Warehouses, shop buildings and terminals were granted 10% of the total, which was also only 10% of the tonnage requested.

Community, religious, and educational groups received 9% of the total allocation, or 9% of the steel asked. The entertainment category took 829 tons or 2%, and miscellaneous residential, such as hotels and dormitories, rated only 3% of the total. However, in the last instance, 24% of the amount requested was granted.

The 298 allotments granted will make possible about $353,547,435 worth of construction. Other construction approved where no allotment was required or otherwise exempt under the regulations came to over $70 million. There were 210 applications for which no allotment was necessary, and 907 for projects which were exempt.

Industry Reported Able to Meet All Needs

• If Policies Recognize Defense and Essential Civilian Needs

» A STATEMENT on problems of control measures for the construction industry was adopted at last month's Washington meeting of the Construction and Civic Development Committee of the U. S. Chamber of Commerce.

The committee recommended that realistic consideration be given by the government to the construction needs of both the national defense and essential civilian activities.

The Associated General Contractors of America was represented by President Glen W. Maxon; Past President Martin W. Watson, a Chamber director; H. C. Turner, Jr., chairman, Building Contractors' Division; and Managing Director H. E. Foreman.

Discussions by government, labor and industry leaders were held. It was revealed that some government executives, not directly connected with construction, consider construction activity inflationary and urge its curtailment for that reason.

A Committee for Construction Mobilization for Defense was designated to give continued study to the industry's problems and to plan for a meeting of the Construction Industry Advisory Council, probably around February 1. The council is composed of more than 100 national associations with an interest in construction. The A.G.C. is represented on the committee by President Maxon, with Mr. Foreman as a consultant. These two also represent the A.G.C. on the Council.

The statement, issued following the November 2 meeting by Chairman Norman P. Mason, expressed the committee's confidence that the construction industry has the capacity to execute all national defense and essential civilian construction promptly and economically so long as the federal government eliminates policies which unduly hamper the industry's productive capacity.

James R. Dunlop

At Construction and Civic Development Committee meeting of Chamber of Commerce of the United States the subject of steel for highways is under consideration by Martin W. Watson, A.G.C. Past President and national Chamber director; Norman P. Mason, North Chelmsford, Mass., committee chairman; and Public Roads Commissioner Thomas H. MacDonald.

Supreme Court Contract Ruling Shocks Construction Industry

- Upholds Finality of U. S. Department Head's Decision
- Judicial Relief Impossible Unless Fraud Is Involved

» THE United States Supreme Court, in a decision handed down November 26, interpreted the disputes clause of the standard government contract form to mean that the determination of the department head is final, and that there can be no recourse to the courts in disputes over findings of fact unless fraud on the part of the government can be proved.

The interpretation appears so positive as to prohibit administrative or judicial remedy, leaving only a legislative remedy.

The principle stated in the majority opinion appears to have important implications for most government contracts. In construction, the decision adds another hazard to contracting, leaving contractors without the possibility of judicial review of findings by government departments, no matter how the findings are arrived at, aside from fraud.

It seems almost certain that the effects of the decision will act contrary to the public interest.

The case resulted from a dispute between the Wunderlich Contracting Co., A.G.C., of Omaha, and the Bureau of Reclamation over the amount of adjustments under a change order in construction of Vallecito Dam in Colorado in 1939 and 1940.

Court of Claims Is Reversed

It was limited to a dispute over rental rates and rates for maintenance and repair of equipment used for the extra work. The company and the government were in substantial agreement on the amount of work, labor and machinery time involved.

The contracting officer calculated that the company was entitled to $44,208. This was sustained by the Secretary of the Interior over the protest of the company. The Court of Claims found the department's action "arbitrary," "capricious," and "grossly erroneous." It awarded the company $155,748.

The case was taken to the Supreme Court by the government. The lower court's decision was reversed by a 6 to 3 opinion. There were two strong dissents by three justices.

Officers and staff of The Associated General Contractors of America were studying the opinion with legal counsel, and the subject was scheduled for consideration by the association's Executive Committee at a meeting in Washington early in December.

Discussion of previous Supreme Court decisions limiting the right of appeal, written by John C. Hayes, A.G.C. legal counsel, was published in the May 1950 issue of THE CONSTRUCTOR, page 39.

The full text of the majority opinion and dissents, printed herewith, deserves careful reading. The decision was on Article 15, the disputes clause of the standard government contract form. The finality of the department head's finding, except where fraud by the government can be proved, was set forth in the majority opinion:

"Despite the fact that other words such as 'negligence,' 'incompetence,' 'capriciousness,' and 'arbitrary' have been used in the course of opinions, this Court has consistently upheld the finality of the department head's decision unless it was founded on fraud, alleged and proved. So fraud is in essence the exception. By fraud we mean conscious wrongdoing, an intention to cheat or be dishonest. The decision of the department head, absent fraudulent conduct, must stand under the plain meaning of the contract."

The possibility of legislative remedy was mentioned in the majority opinion as follows: "The limitation upon this arbitral process is fraud, placed there by this Court. If the standard of fraud that we adhere to is too limited, that is a matter for Congress."

The dissents vigorously opposed the majority opinion.

Full Text of Opinions

MR. JUSTICE MINTON delivered the opinion of the Court:

"This Court is again called upon to determine the meaning of the 'finality clause' of a standard form government contract. Respondents agreed to build a dam for the United States under a contract containing the usual 'Article 15.'* That Article provides that all disputes involving questions of fact shall be decided by the contracting officer, with the right of appeal to the head of the department 'whose decision shall be final and conclusive upon the parties thereto.' Dissatisfied with the resolution of various disputes by the department head, in this instance the Secretary of the Interior, respondents brought suit in the Court of Claims. That court reviewed their contentions, and in the one claim involved in this proceeding set aside the decision of the department head. 117 Ct. Cl. 92. Although there was some dispute below, the parties now agree that the question decided by the department head was a question of fact. We granted certiorari, 341 U. S. 924, to clarify the rule of this Court which created an exception to the conclusiveness of such administrative decision.

The same Article 15 of a government contract was before this Court recently, and we held, after a review of the authorities, that such Article was valid. *Moorman* v. *United States*, 338 U. S. 457. Nor was the *Moorman* case one of first impression. Contracts, both governmental and private, have been before this Court in several cases in which provisions equivalent to Article 15 have been approved and enforced 'in the absence of fraud or such gross mistake as would necessarily imply bad faith, or a failure to exercise an honest judgment . . . .' *Kihlberg* v. *United States*, 97 U. S. 398, 402; *Sweeney* v. *United States*, 109 U. S. 618, 620; *Martinsburg & P. R. Co.* v. *March*, 114 U. S. 549, 553; *Chicago, S. F. & C. R. Co.* v. *Price*, 138 U. S. 185, 195.

In *Ripley* v. *United States*, 223 U. S. 695, 704, gross mistake implying bad faith is equated to 'fraud.' Despite the fact that other words such as 'negligence,' 'incompetence,' 'capriciousness,' and 'arbitrary' have been used in the course of the opinions, this Court has consistently upheld the finality of the department head's decision unless it was founded on fraud, alleged and proved. So fraud is in essence the exception. By fraud we mean conscious wrongdoing, an inten-

* "ARTICLE 15. *Disputes.*—Except as otherwise specifically provided in this contract, all disputes concerning questions of fact arising under this contract shall be decided by the contracting officer subject to written appeal by the contractor within 30 days to the head of the department concerned or his duly authorized representative, whose decision shall be final and conclusive upon the parties thereto. In the meantime the contractor shall diligently proceed with the work as directed."

tion to cheat or be dishonest. The decision of the department head, absent fraudulent conduct, must stand under the plain meaning of the contract.

"If the conclusiveness of the findings under Article 15 is to be set aside for fraud, fraud should be alleged and proved, as it is never presumed. *United States* v. *Colorado Anthracite Co.*, 225 U. S. 219, 226. In the case at bar, there was no allegation of fraud. There was no finding of fraud nor request for such a finding. The finding of the Court of Claims was that the decision of the department head was 'arbitrary,' 'capricious,' and 'grossly erroneous.' But these words are not the equivalent of fraud, the exception which this Court has heretofore laid down and to which it now adheres without qualification.

"Respondents were not compelled or coerced into making the contract. It was a voluntary undertaking on their part. As competent parties they have contracted for the settlement of disputes in an arbitral manner. This, we have said in *Moorman*, Congress has left them free to do. *Moorman* v. *United States, supra,* at 462. The limitation upon this arbitral process is fraud, placed there by this Court. If the standard of fraud that we adhere to is too limited, that is a matter for Congress.

"Since there was no pleading of fraud, and no finding of fraud, and no request for such a finding, we are not disposed to remand the case for any further findings, as respondents urge. We assume that if the evidence had been sufficient to constitute fraud, the Court of Claims would have so found. In the absence of such finding, the decision of the department head must stand as conclusive, and the judgment is

Reversed."

Dissenting Opinions

MR. JUSTICE DOUGLAS, with whom MR. JUSTICE REED concurs, dissenting:

"Law has reached its finest moments when it has freed man from the unlimited discretion of some ruler, some civil or military official, some bureaucrat. Where discretion is absolute, man has always suffered. At times it has been his property that has been invaded; at times, his privacy; at times, his liberty of movement; at times, his freedom of thought; at times, his life. Absolute discretion is a ruthless master. It is more destructive of freedom than any of man's other inventions.

"The instant case reveals only a minor facet of the age-long struggle. The result reached by the Court can be rationalized or made plausible by casting it in terms of contract law: the parties need not have made this contract; those who contract with the Government must turn square corners; the parties will be left where their engagement brought them. And it may be that in this case the equities are with the Government, not with the contractor. But the rule we announce has wide application and a devastating effect. It makes a tyrant out of every contracting officer. He is granted the power of a tyrant even though he is stubborn, perverse or captious. He is allowed the power of a tyrant though he is incompetent or negligent. He has the power of life and death over a private business even though his decision is grossly erroneous. Power granted is seldom neglected.

"The principle of checks and balances is a healthy one. An official who is accountable will act more prudently. A citizen who has an appeal to a body independent of the controversy has protection against passion, obstinacy, irrational conduct, and incompetency of an official. The opinion by Judge Madden in this case expresses a revulsion to allowing one man an uncontrolled discretion over another's fiscal affairs. We should allow the Court of Claims, the agency close to these disputes, to reverse an official whose conduct is plainly out of bounds whether he is fraudulent, perverse, captious, incompetent, or just palpably wrong. The rule we announce makes government oppressive. The rule the Court of Claims espouses gives a citizen justice even against his government."

MR. JUSTICE JACKSON, dissenting:

"It is apparent that the Court of Claims, which deals with many such cases while we deal with few, has reached a conclusion that contracting officers and heads of departments sometimes are abusing the power of deciding their own lawsuits which these contract provisions give to them. It also is apparent that the Court of Claims does not believe that our decision in *United States* v. *Moorman*, 338 U. S. 457, completely closed the door to judicial relief from arbitrary action unless it also is fraudulent in the sense of 'conscious wrongdoing, an intention to cheat or be dishonest.' Nor could I have believed it.

"Granted that these contracts are legal, it should not follow that one who takes a public contract puts himself wholly in the power of contracting officers and department heads. When we recently repeated in *Moorman* that their decisions were ' "conclusive, unless impeached on the ground of fraud, *or such gross mistake as necessarily implied bad faith,*" ' *id.*, at 461 (emphasis supplied), I supposed that we meant that part of the reservation for which I have supplied emphasis. Today's decision seems not only to read that out of the *Moorman* decision, but also to add an exceedingly rigid meaning to the word 'fraud.'

"Undoubtedly contracting parties can agree to put decision of their disputes in the hands of one of them. But one who undertakes to act as a judge in his own case or, what amounts to the same thing, in the case of his own department, should be under some fiduciary obligation to the position which he assumes. He is not at liberty to make arbitrary or reckless use of his power, nor to disregard evidence, nor to shield his department from consequences of its own blunders at the expense of contractors. He is somewhat in the position of the lawyer dealing with his client or the doctor with his patient, for the superiority of his position imposes restraints appropriate to the trust. Though the contractor may have covenanted to be satisfied with what his adversary renders to him, it must be true that he who bargains to be made judge of his own cause assumes an implied obligation to do justice. This does not mean that every petty disagreement should be readjudged, but that the courts should hold the administrative officers to the old but vanishing standard of good faith and care.

"I think that we should adhere to the rule that where the decision of the contracting officer or department head shows 'such gross mistake as necessarily to imply bad faith' there is a judicial remedy even if it has its origin in overzeal for the department, negligence of the deciding official, misrepresentations—however innocent—by subordinates, prejudice against the contractor, or other causes that fall short of actual corruption. Men are more often bribed by their loyalties and ambitions than by money. I still believe one should be allowed to have a judicial hearing before his business can be destroyed by administrative action, although the Court again thinks otherwise. Cf. *Ewing* v. *Mytinger*, 339 U. S. 594, 604."

Harder for General Contractors To Make a Profit Under Tax Law

- Three Hikes Since Korea Break Record, Incentive
- Property Transport Tax Change Most Beneficial

By John C. Hayes

Hayes and Hayes, Washington, D. C.

(Mr. Hayes is legal counsel of The Associated General Contractors of America and THE CONSTRUCTOR.*—Ed.)*

» GENERAL contractors are forewarned that the new revenue law will make it increasingly difficult to operate at a profit. Gloomy statements are now appearing to the effect that the new law creates such a heavy tax burden that prior rate of earnings cannot be maintained. Some third quarter and nine-month reports released by corporations for 1951 show that despite large gains in gross sales the net return after taxes is much smaller than last year. Many members of Congress are now warning that this last increase in taxes is as much as the country can stand—in short, that the saturation point has been reached. It recalls the dictum of Chief Justice John Marshall: "The power to tax is the power to destroy."

3 Rapid-Fire Hikes

Since the outbreak of hostilities in Korea, a little over a year ago, there have been three revenue increases. The Revenue Act of 1950, which became law on September 23, 1950, increased revenues by over $6 billion. The Excess Profits Tax Act of 1950, enacted on January 3, 1951, raised revenues approximately $3.9 billion. The new revenue law just enacted adds approximately $5.5 billion. The foregoing three increases add approximately $15.5 billion to the tax burden taxpayers were carrying prior to the Korean hostilities. It is estimated that these three tax measures will increase taxes of individuals by 29% of the amount they were called upon to pay prior to the Korean outbreak. Corporation taxes, it is estimated, will be increased by approximately 52%. It cannot be recalled that there ever has been such a great increase in the tax burden in such a short period of time. For many taxpayers the rates now imposed are above the maximum rates in effect during World War II. Administration leaders are already demanding more tax legislation from Congress, notwithstanding that even now, with the present rates in effect, it is difficult to see how the present standard of living can be maintained by individual taxpayers and how corporations can retain a sufficient amount of profits from earnings to take care of necessary replacements and expansions, without which a corporate taxpayer cannot remain in business.

Excessive Taxes Injurious

It is stated that high taxes are necessary to combat inflation. There is a point, however, at which taxes may be more burdensome than the economy can bear. In truth, both excessive taxation and inflation are injurious. It is likewise true that an increase in tax can be largely nullified. This is borne out by events subsequent to the enactment of the Revenue Act of 1950. Shortly thereafter labor demanded and received higher wages, which in turn were reflected in higher prices for materials and finished products. This was especially noticeable in the increased cost of the defense rearmament program. While it is true that the enactment of withholding tax legislation was imperative, it is regrettable that some other plan could not have been devised to accomplish the same end. It would appear that wage and salary earners have lost sight of the fact that it is the duty of all citizens to contribute to the support of the government. Everything now seems to be measured in terms of "take home pay." This is borne out by at least one labor group that contends that taxes should be regarded as a cost of living. This group is asking the government to change the cost of living index to permit automatic increases in wages whenever taxes are increased.

In order to satisfy the Administration's demand for more and more revenue, and in the hopes of restoring the belief that it is the duty of every citizen to contribute to the support of the government, it would appear that a federal sales tax might possibly solve the problem. However, because of its political implications, such a law now, as in the past, would receive scant consideration.

Here are some major changes as provided in the Revenue Act of 1951:

Corporation Rates:

(1) Normal tax is increased from 25% to 30%.

(2) Surtax remains at 22% of the amount of surtax net income in excess of $25,000. There is no surtax on the first $25,000 of income.

(3) The change in corporate tax rates is made retroactive to April 1, 1951, or for nine months of the present calendar year. Thus, the combined normal and surtax rate for the fractional 1951 year amounts to 50¾%. For tax years beginning after April 1, 1951, the combined rate amounts to 52%.

(4) The excess profits tax rate of 30% is imposed on all profits over and beyond the corporation's excess profits tax credit. The effective tax rate on excess profits combined with the normal and surtax rates amounts to 80¾% for 1951 and 82% for 1952 and later years.

(5) The 62% tax ceiling on the amount of a corporation's income that could be taken for corporate and excess profits taxes has been entirely revised and a different approach substituted in the new act. For most corporations the new ceiling limitation for 1952 and later years shall not exceed 18% of a corporation's excess profits tax income. For 1951, no more than 17¼% can be taken in excess profits taxes. This new ceiling approach ranges from slightly over 46% to just less than 68%, depending on the size of the corporation's income. For 1952 and later years the ceiling would vary from 48% to just under 70%.

(6) The new act cuts back the excess profits tax credit of corporations determining their credit by the average earnings method during the base period years 1946 through 1949 from 85% to 83%. This cut-back is effective July 1, 1951.

(7) The new act contains many provisions aimed at easing the application of the excess profits tax on various corporate taxpayers. These relief provisions are made retroactive to July

1, 1950, the original effective date of the excess profits tax law. These provisions for the most part relate to special tax situations.

Individual Rates: The new law increases individual tax rates, effective November 1, 1951. Thus, for the calendar year 1951 the combined normal and surtax rates range from 20.4% on the first $2,000 of taxable income to 91% on taxable income over $200,000. For the calendar year 1952 the combined normal and surtax rates range from 22.2% on the first $2,000 of taxable income to 92% of the taxable income in excess of $200,000. The new law raises the ceiling limit on individual taxpayers from 87% to 87.2% for the calendar year 1951 and 88% for the calendar year 1952. A provision is contained in the new act that increases on individuals would terminate December 31, 1953.

Personal Exemptions: Personal exemptions remain unchanged at $600 for the taxpayer and $600 for each dependent. Widows and other single people who can qualify under the new law as heads of families will be permitted to split part of their income for tax purposes. Beginning in 1952 these people will be given about one-half the tax advantage that married couples get through splitting the family income. To qualify the taxpayer as head of a household, his dependents must live with him.

Deductions: Taxpayers 65 years old or over will be permitted to take tax deductions for all their medical expenses, not just the part that exceeds 5% of income as provided in prior revenue acts.

Withholding Tax: The withholding tax rate is increased from 18% to 20%. The 20% rate is applicable to wages paid after November 1, 1951. The new law permits employees, by agreements with employers, to authorize the deduction of a sufficient amount from the wages or salary paid to cover the entire amount of the employee's income tax. Specific rules on this are to be issued later by the Treasury Department.

Loss Carry-forward: Corporations will now be permitted to carry net operating losses for 1948 and 1949 forward for three years to offset profits in later years. Under the prior law the carry-forward was limited to two years. Individuals are permitted a five-year carry-forward and a one-year carry-back for losses due to flood, fire, or other catastrophes. Under the prior law only business casualty losses could be carried forward or back to offset income in other years.

Capital Gains: There is no change in the present 25% maximum rate on long-term capital gains for the calendar year 1951. For the calendar year 1952 the maximum rate on long-term capital gains increases from 25% to 26%. Beginning January 1, 1952, the right to offset short-term losses against long-term gains is changed. After that date the loss offset against gain is on a dollar-for-dollar basis. Changes have been made in the determination of what constitutes capital gains. Dairy farmers, beef-cattle growers, and others selling breeding stock will be taxed on their profits on a capital gain basis. Likewise, capital gains on the sale of homes are now deferred or waived provided the money is used within a year before or after the sale to purchase another residence. Gains from the sale of certain property between spouses or between an individual and a controlled corporation can no longer be treated as capital gains. The new law provides that the gain must be treated as ordinary income.

Transportation of Property Tax: Probably the most beneficial amendment incorporated in the new law relates to the transportation of material excavated in the course of construction work. The amendment provides that the tax imposed on the transportation of property shall not apply to the transportation of earth, rock, or other material excavated within the boundaries of, and in the course of, a construction project and transported to any place within or adjacent to the boundaries of such project. The supplemental report of the Committee on Finance accompanying the Senate bill sets forth that to be exempted from the tax the property must be earth, rock, or other material excavated within the boundaries of, and in the course of, a construction project and that the transportation of the excavated material must be within the boundaries of the construction project or to a place adjacent thereto. It sets forth as an example that in the case of a road building operation the boundaries of the project would embrace the area covered by the length and width of the roadway plus any adjoining right-of-way. This provision should eliminate one of the most annoying situations that many contractors had to contend with.

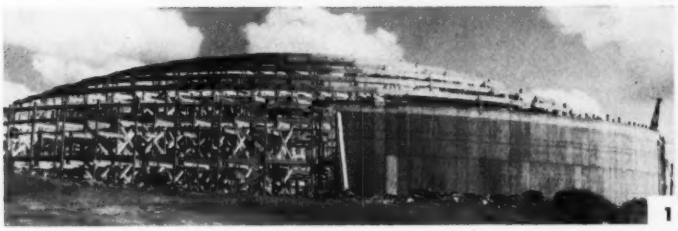
There have been many controversies between the Bureau of Internal Revenue and taxpayers as to the distinction between employees and independent contractors. As a result, many contractors paid out large sums for social security tax, only to find that the Bureau of Internal Revenue held that the work was performed by independent contractors and hence was subject to the transportation of property tax and not by employees covered by social security. This amendment will result in a considerable saving to contractors whose operations embrace highway and heavy construction. The national office of The Associated General Contractors of America has advocated this change almost from the time the original provision was enacted. At the time of the hearings before the Senate Finance Committee, an A.G.C. member appeared and testified in favor of this amendment.

Other Beneficial Provisions

Other beneficial provisions that may affect some general contractors include the new depletion allowance of 5% on sand, gravel, slate, stone, etc. Another amendment permits a United States citizen residing abroad to exclude from his gross income any earned income from sources without the United States which is attributable to an uninterrupted period of foreign residence. The time and length of residence is set forth in the law. Likewise, after January 1, 1952, withholding will not be required in the case of wages paid to a United States citizen by an employer (other than the United States or any agency thereof) for services performed in a foreign country by such citizen if it is reasonable to believe that the employee is able to meet the residence test as required by this amendment.

Contracting Hazards Increase

The impact of the heavy tax burden created by this new law and by the Revenue Act of 1950 and the Excess Profits Tax Act of 1950 only partially points up the hazards of the operations of the general contractor. In addition to the new tax legislation, the contractor is faced with wage and salary restrictions, price restrictions, material restrictions, and the renegotiation of many contracts entered into with the government, even though the project covered by the contract may not be completed for some time, and in some instances for several years.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Two-Way Squeeze on Concrete Tank

One of the most successful adaptations of European prestressed concrete methods in the U. S. has been in the construction of tanks and reservoirs. Here is the picture story of how the Thomsen-Abbott Co., A.G.C., Marshfield, Wis., put the two-way squeeze on a new 2.5 million-gallon water reservoir for the City of Wausau, Wis.

The tank was stressed vertically after the concrete walls of the reservoir (8 in. thick and 16 ft. high) had been poured and set. Prior to pouring, 412 units of six rods each were anchored in the base of the 528-ft. wall circumference and coated with mastic. After pouring, a 60-ton jack at the top of the wall pulled each of the units to 120,000 psi. The taut rods were then locked in place and the lock plates covered when the roof was poured.

The reservoir was stressed circumferentially by duplicate hydraulic puller machines, stationed opposite each other to provide a more uniform elongation of the stress wires. The two halves of each wire were joined at each machine by nosed-on turn buckles. The 30-in. support ring just under the dome was triple-stressed with 147 wires in three layers. The rest of the 16-ft. wall was stressed with another 195 wires.

Conventional reinforcing for the dome was provided with 2,150 $\frac{3}{8}$-in. and $\frac{1}{2}$-in. rods. The Prestressed Concrete Corp of Kansas City handled the lateral stressing.

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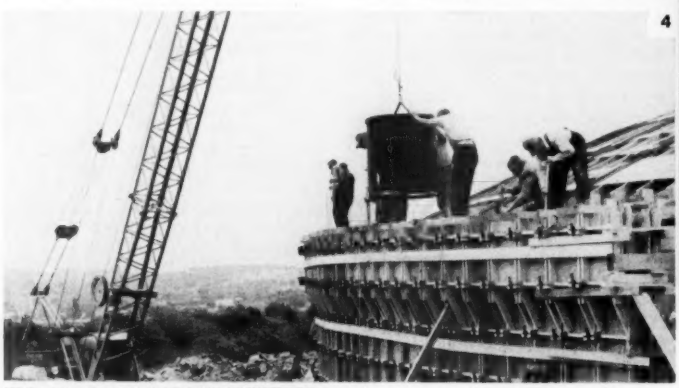
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STEP 1—Building the reservoir required 145,000 ft. of lumber; 9,000 ft. of veneer paneling for wall forms.

STEP 2—Placing the inner wall forming and positioning tie rods for the vertical stress wires.

STEP 3—Positioning the six-wire vertical stressing units and tying them at the top (to 2 x 4s) before pouring concrete.

STEP 4—Pouring the concrete walls—the first of seven sections.

STEP 5—Wall ready for vertical prestressing now.

6

STEP 6—Sixty-ton jack at top of hardened wall stresses each group of six wires to 120,000 psi.

STEP 7—Roof poured—conventional reinforcing used for 4½ in. dome top.

STEP 8—Here, 342 stressing wires have been positioned around the tank and are being tightened to 140,000 psi by two identical hydraulic puller machines, at opposite sides of the tank. The combined halves were elongated about 29 in. and joined at each machine by turn buckles.

STEP 9—The Gunite Concrete and Construction Co., A.G.C., Kansas City, used 320 bags of cement and 54 yds. of sand at 3-to-1 mix in applying this ¾ in. seal coat hiding the stress wires.

STEP 10—The reservoir, completed late in October, will be backfilled and landscaped, its unique construction invisible to the casual observer. The contractor used 970 yds. of ready-mix concrete, including 227 yds. in the prestressed walls. The bid price was $72,492 for the reservoir. Outside (lateral) stressing was by the Prestressed Concrete Corp. of Kansas City.

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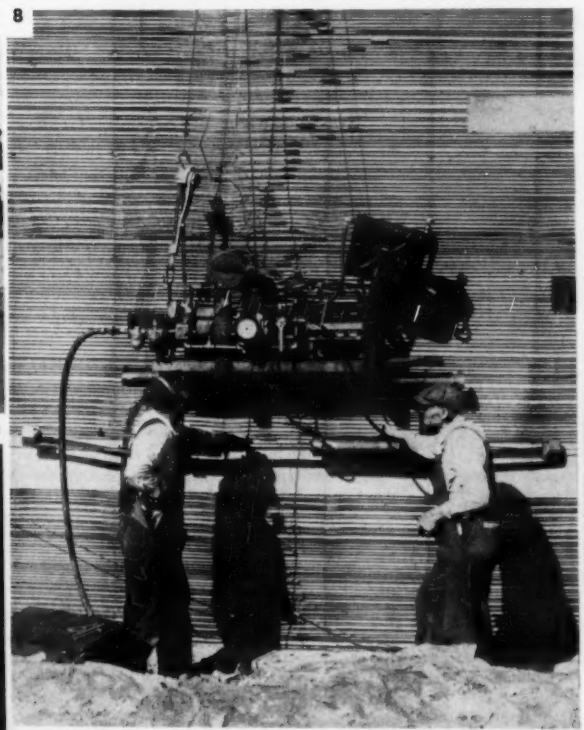

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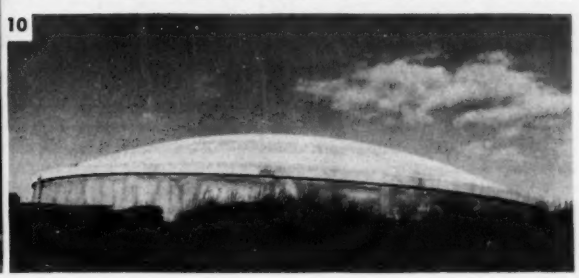

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Only Lack Of Steel Stymies State School Building Plans

- Lawmakers Approve Multi-Million-Dollar Programs
- Financing Ideas, Many and Varied, Raise Funds

» BEHIND the snowballing force which last month jarred more steel for school construction from the National Production Authority are a number of state building programs temporarily stalled by inadequate allocations of structural steel.

Most of such plans have been in the making for years and have recently

Supplemental School Allocations—Page 22

been given state legislative sanction only after construction needs exceeding $1.5 billion a year had drawn increasing public attention.

They were no sooner adopted in many states than they were stifled by the defense program. However, if they can obtain the critical materials, a number of states are now prepared to pour millions of dollars into large-scale school construction programs.

In recent years, multi-million-dollar grants of state aid in California, Connecticut, Maryland, Mississippi, North Carolina, Tennessee, Virginia and West Virginia have set the pace.

This year in 11 other states—Delaware, Florida, Georgia, Indiana, Maine, New York, Ohio, South Carolina, Utah, Washington, and Wisconsin—legislators have made increased amounts of state financial aid available to localities for the specific purpose of school construction or broadened their local taxing or borrowing powers for the same purpose.

In addition to meeting the need for elementary and secondary schools, the lawmakers are giving state-supported institutions of higher learning a greater amount of favorable action. Bills granting higher appropriations or broadening authority for such construction were widely enacted by state legislatures this year.

Revenue Bonds

In three states—Georgia, Indiana and Maine—unusual moves were made to allow revenue bond financing for secondary and grade school building. Heretofore, although revenue bond financing has been used widely to provide new buildings for state colleges and universities, only in Pennsylvania has the device been employed to finance other educational facilities.

The Pennsylvania idea, operating there since 1949, has stimulated 82 contracts with school districts for projects costing about $37 million.

Georgia's legislature created a State School Building Authority with broad powers to finance and construct self-liquidating school projects. Revenue bonds issued by the new agency will be amortized from "rentals" paid by city and county school boards using the new buildings. Preliminary plans are for a $60 million program with long-range expectations of spending $175 million to $200 million for new facilities within the next five years.

Sales Tax

The Georgia legislators also enacted a 3% sales tax to permit doubling its appropriation to schools to $100 million this year.

South Carolina this year authorized a $75 million school building bond issue to finance a 20-year construction program. Again, a new 3% retail sales tax is expected to yield over $30 million annually to amortize school building bonds.

In Delaware the legislature passed bills providing over $16 million for 34 projects.

Utah enacted a provision for $1 million annually for poorer school districts and broadened the taxing power of other districts.

Wisconsin voters approved a state constitutional amendment raising the debt limitation of cities for school purposes, thus making possible more construction there.

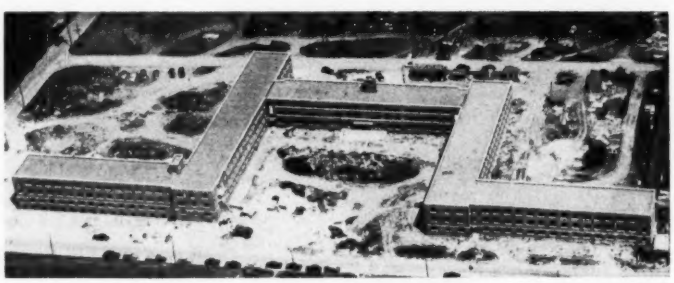
In Maine, the legislature has approved a proposed state constitutional amendment of the same type.

Vehicle Registrations

Florida lawmakers are sending a proposed amendment to the voters next year which will permit the use of motor vehicle registration funds for school construction. It is designed to guarantee state aid to localities for school construction purposes and thus enable them to borrow money to meet building needs totaling $150 million.

The Maryland legislature two years ago approved a $70 million program of state aid for school building and this year authorized the city of Baltimore to issue $20 million in bonds for that purpose.

New York rejected a proposal to issue $600 million for school construction but is broadening the borrowing powers of municipalities. Washington is raising $11 million for school



Largest Dormitory in the South

Work has just been completed on the largest dormitory in the South—the second largest such structure in the world. Pictured above is the new $1.5 million building at the Agricultural and Technical College in Greensboro, N. C.

The three-story dormitory has 505 student rooms and stretches almost an entire city block. In addition, it has several recreation and lounge rooms and living quarters for faculty members. The large structure was built by the H. L. Coble Construction Co., A.G.C., and designed by McMinn & Norfleet, both Greensboro firms.

support—part of a projected $85 million building program. Ohio has passed a measure giving new financing powers to school districts and West Virginia is making local bond issuance for school easier.

Besides discovering a myriad of financial schemes to make school construction possible at last, (West Virginia has put a penny tax on soda pop and Washington has placed a 1% tax on real estate transactions), many states are making direct appropriations for improvements on college and university campuses.

Maryland, Georgia, Tennessee, Connecticut, Texas, New Jersey, West Virginia, Washington, Florida, Kansos, Arizona and Wisconsin doled out from $3 million to $15 million each for medical schools, dormitories and other campus buildings this year or authorized bond issues to raise such sums.

Atom Lab Design Discussed

Architects, engineers and contractors joined chemists, and atomic energy experts last month to hear open discussions of building specifications for atomic laboratories.

The pioneer conference on the subject, sponsored by the Atomic Energy Commission and the American Institute of Architects and conducted by the Building Research Advisory Board, explored a mass of heretofore classified data. Problems encountered in the construction of over 115 laboratories throughout the country were laid bare to architects and builders and sources of further information were revealed.

Over 200 representatives were present to learn the unique requirements for such laboratories—both in construction and materials. The problems of building to carry great concentrations of weight in concrete and lead shields and the reaction of various building materials to radioactive elements were discussed. Floor, ceiling and partition construction specifications came up for questioning.

The conference considered the unusual facilities unnecessary for protection of personnel and instruments from atomic energy rays, as well as ventilation control and waste disposal problems involved in building such a plant. Proceedings of the parley and bibliographies made available there are expected to be publicized soon.

Alcoa Building Donning Aluminum Dress

» THE Aluminum Company of America's handsome, 30-story skyscraper home under construction in downtown Pittsburgh finally is shown above donning its aluminum dress—an operation that is expected to be completed in February.

However, the lower extremities are expected to go unclad for an indefinite period under a unique arrangement with the National Production Authority, which permitted the building to proceed only to partial completion, leaving the first six floors unfinished. The move reportedly was made to save scarce aluminum. (August CONSTRUCTOR, page 38.)

The only office building in the country to have a stamped aluminum panel curtain wall, the structure will also contain reversible aluminum windows and aluminum column covers. The diamond-patterned panels measure 6 by 12 ft. and were fabricated from $\frac{1}{8}$-in. aluminum sheet by the Pullman Standard Manufacturing Co., Hammond, Ind. The 4½ by 4 ft. reversible windows were made by Adams & Westlake Co., Inc., Elkhart, Ind. The combined window-panel units are secured by bolting to vertical angles attached to spandrel beams.

Four inches of lightweight, reinforced concrete backs up the aluminum walls. The company reports use of the thin curtain wall permitted a saving of more than 4,500 tons of structural steel, and permitted a lighter, less expensive foundation.

The building, which is being constructed by the George A. Fuller Co., A.G.C., New York City, is scheduled to be occupied in May 1952 by the company's personnel, which now are scattered in eight buildings.

The necessity of postponing completion of the first six floors—which have been dubbed by some as the "Fleischmann Section" reportedly will increase costs substantially.

Approximately half of the aluminum originally specified for the building has been replaced with substitute materials, the company said.

Struggle For Building Code Changes Gaining

- Modification Being Hastened by Current Steel Shortage

» THE PERPETUAL campaign for modification of out-dated building codes is getting new life these days. Advocates of the current drive to conserve building materials are finding the ancient codes a block against acceptance of alternate materials. They have renewed the movement for a general face-lifting of municipal codes.

The U. S. Chamber of Commerce, long a proponent of standardization and simplification of the nation's 2,000 municipal building codes, is citing the current materials squeeze as good reason for revisions to allow the use of new materials and methods.

The rearmament program demands the most effective use of materials for defense construction, the Chamber's Construction and Civic Development Committee says in a recent report, reiterating the need to revise building codes.

Model state legislation, they propose, would allow use of any material or method which meets minimum performance requirements, require the municipalities to periodically review their regulations, permit adoption by reference of nationally recognized building codes and standards, and provide legal remedies for persons aggrieved by the code or its administration.

The Associated General Contractors of America, represented on the committee by W. A. Snow, Building Division manager, is supporting the organization's conclusions.

From another angle the Housing and Home Finance Agency has drawn up a model municipal ordinance authorizing the use of substitutes for the duration of the emergency, at least. The agency is asking communities to draft the ordinance as a step toward conservation of scarce materials.

Although deterred in some localities by static building codes, the conservation movement is gathering momentum. Both private groups and government agencies are exploring ways to beat the shortages—particularly in structural steel.

The Defense Production Administration, urging adoption of a steel conservation program "to allow for more construction in 1952 with the materials available," recently listed seven design standards which it believed could be accepted by engineers, architects, contractors and construction officials.

The agency has since bolstered its stand with renewed appeals for "frugal designs." Building practices by other government agencies, also, are under particular surveillance, as DPA proclaims a desire "to clean its own house" of wastefulness in use of both materials and manpower.

This summer, it contracted with the Building Research Advisory Board for an intensive study of the nation's sources of building materials. The long-term safeguarding of natural resources will be considered, as well as the emergency conservation dictated by the defense effort. B.R.A.B. reports that the project has been programmed and actual field work is being conducted.

On another sector, the National Bureau of Standards is actively engaged in testing potential substitute materials and encouraging their acceptance in building codes.

Contractors Report On Modular Design

» CONFLICTING opinions on desirability of the modular coordination method of construction continue to be made by general contractors.

Some contractors prefer to work on buildings completely designed under the modular coordination method and for which materials are available in modular sizes.

Others experience difficulty when structures are not adequately designed under the method, or materials are not available in true sizes.

First responses to a questionnaire sent to its members by The Associated General Contractors of America were reported in the November issue of THE CONSTRUCTOR, pages 36-38. Comments of architects and producers will be published in future issues. Below are quoted some comments from A.G.C. members received after the first article was prepared.

"Economical in Every Respect"

CHARLESTON, W. VA. "We have constructed three major projects designed wholly on the modular system and it is our considered opinion that the modular designed structures are more economical in every respect. Properly designed modular structures eliminate entirely the use of fractional dimensions. We find that our field forces are better able to remember the even dimensions that result from modular design. Field cutting and fitting is reduced to a minimum.

"We have experienced no trouble in obtaining materials that fully meet the modular requirements. Slight variances in brick or other masonry unit sizes are easily adjustable in the jointing. We realize that if a building is designed partially modular and partially conventional that difficulties would be encountered. However, we do not believe that any architect fully conversant with the modular system would attempt a combination of the two systems."

These Had Troubles

CLARKSBURG, W. VA. "Though we hesitate to condemn the modular design system on the limited experience of one building, we definitely do not like it on this job. This building has a great many small brick piers and pilasters and the so-called modular sized brick simply would not fit.

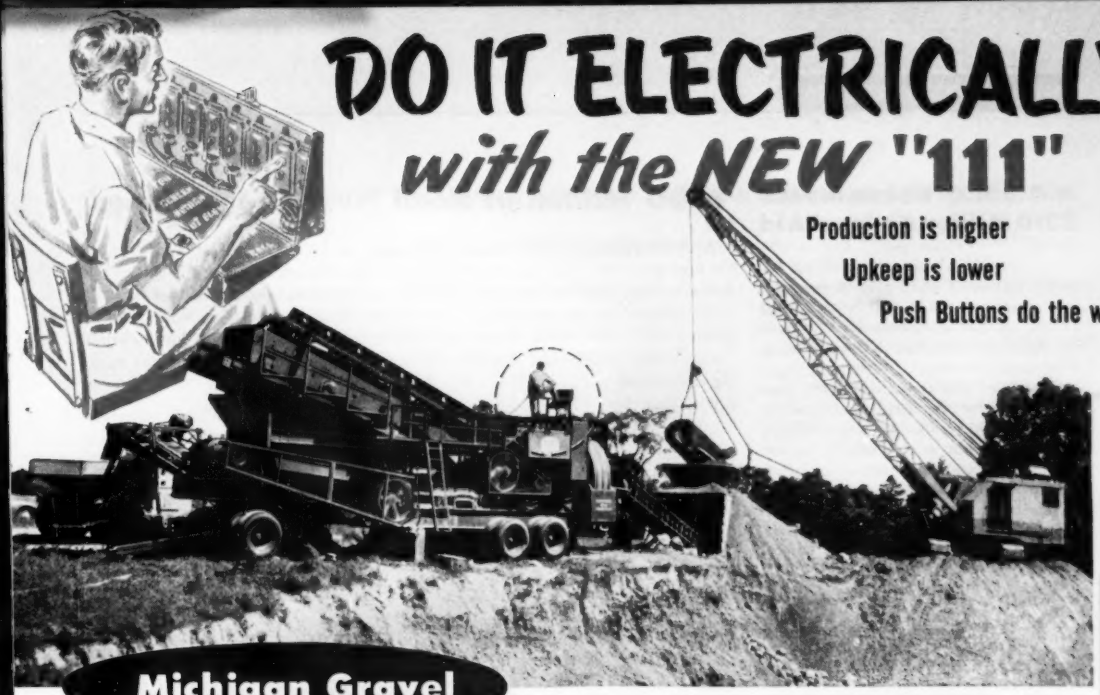
"Our windows and doors were also supposed to be modular sized. However, the manufacturers allowed themselves sufficient liberties and tolerances so that they would not fit exactly either. The modular system is fine on paper, but it is a rigid system and requires rigid adherence to the sizes by all the manufacturers concerned.

"The same problems occur on using conventional sized materials, but architects look for them and try to arrange for them in advance, and are not lulled to sleep by the theory that modular design will make everything fit."

CHARLOTTE, N. C. "The architect made his complete layout based on modular brick. . . However, there was an alternate in the specifications that increased the allowance for face brick to permit the owner, should funds be available, to select a more expensive brick. The owner acepted the alternate and selected a brick that was modular only in length. The writer tried to redesign the brick work so as to use the non-modular brick in a modular design wall, but found this to be impossible. The final result was that we laid the brick in the modular bond, but had to reduce the joint to 3/8 inch."

DO IT ELECTRICALLY
with the NEW "111"

Production is higher
Upkeep is lower
Push Buttons do the work



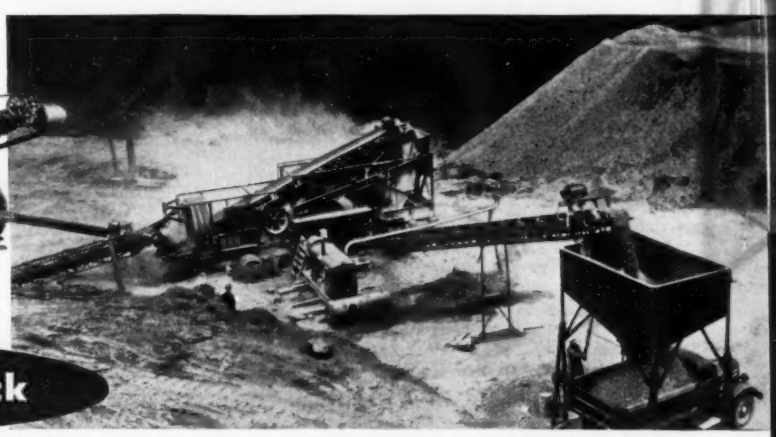
Michigan Gravel

Production is higher—because each unit has its own electric motor drive; thus operates at top speed and efficiency at all times.

Upkeep is lower—because drives are simple and have few parts.

Push buttons do the work—the man on the platform starts and stops the feed and delivery conveyors, and has other units under complete control.

Primary Breaker units are made in several sizes; this one has a 3′ x 10′ apron feeder, 20″ x 36″ jaw crusher, power unit and delivery conveyor—all mounted on pneumatic tires.



Carolina Rock

The high production "111," with its 10″ x 36″ jaw and 40″ x 24″ roll crushers, is equally at home in gravel and rock. On this quarry job, production is still further increased by using a Primary Breaker unit with 32″ x 40″ jaw crusher (not visible in the photograph) to reduce the oversize to about 5 inches.

AUSTIN-WESTERN COMPANY · *Subsidiary of Baldwin-Lima-Hamilton Corporation* · **AURORA, ILLINOIS, U. S. A.**

Austin Western

BALDWIN BLH LIMA-HAMILTON

SINCE 1859—BUILDERS OF CONSTRUCTION EQUIPMENT

A.A.S.H.O. Recommends $810 Million Federal Aid

A HIGHWAY program calling for authorization of $810 million per year in federal-aid funds will be proposed to the upcoming session of Congress by the American Association of State Highway Officials.

The total authorization figure, recommended for the fiscal years ending June 30, 1954 and June 30, 1955, is the same sought unsuccessfully by the A.A.S.H.O. and cooperating industry organizations in 1950.

The proposed program calls for four annual authorizations, which are compared with authorizations under the present law as follows:

System	*Proposed*	*1950 Act*
Interstate	$210,000,000	(None)
Primary	270,000,000	$225,000,000
Secondary	180,000,000	150,000,000
Urban	150,000,000	125,000,000
Total	$810,000,000	$500,000,000

Principal change in the organization's recommendations is that all funds be matched on a 50-50 basis. The 1950 recommendation had proposed that the special interstate category be set up on a 75-25 matching basis.

Allocations of the primary, secondary and urban funds are proposed in accordance with the regular formulas in the Federal-Aid Highway Acts of 1944, 1948 and 1950; the interstate funds to be apportioned on the basis of state population, with none to receive less than ¾ of 1%.

A $15 million authorization is proposed for emergency relief.

A 25% limit on switching of funds between the primary and secondary systems is recommended.

Other annual outlays proposed:

Forest highways, $32 million; forest development roads and trails, $28 million; National Park Service roads and trails; parkways, $17 million; Indian reservation roads and bridges, $10 million; and roads on unappropriated public lands, $5 million.

Frank T. Sheets, noted highway engineer and president of the Portland Cement Association since 1937, died suddenly Nov. 3 in Chicago. Many technological advances in the fields of portland cement and concrete were made under the leadership of Mr. Sheets, who has held many important positions, including the presidency of the A.A.S.H.O.

$500 Million of Road Funds Apportioned

Apportionment of $500 million authorized as 1952 federal aid to the states for highways has been announced by the U. S. Bureau of Public Roads. The funds include $225 million for projects on the federal-aid highway system, $150 million for the secondary system and $125 million for federal-aid in urban areas. New York State will receive the largest amount—$30.7 million—and Texas, California, Pennsylvania and Illinois follow with amounts ranging downward to $21 million. The bureau announced also the distribution of $20 million for the rehabilitation of roads in National Forests.

State	Federal-aid System	Secondary Roads	Urban Highways	Total
Alabama	$4,667,971	$3,621,928	$1,586,037	$9,875,936
Arizona	3,294,585	2,243,550	470,881	6,009,016
Arkansas	3,659,614	2,931,245	677,225	7,268,084
California	10,160,691	5,233,338	10,761,356	26,155,385
Colorado	3,988,333	2,663,606	1,006,137	7,658,076
Connecticut	1,401,852	721,875	2,344,571	4,468,298
Delaware	1,082,813	721,875	248,278	2,052,966
Florida	3,513,455	2,295,574	2,170,778	7,979,807
Georgia	5,491,196	4,190,994	1,764,294	11,446,484
Idaho	2,737,218	1,924,535	232,987	4,894,740
Illinois	8,518,157	4,638,620	8,466,307	21,623,084
Indiana	5,248,078	3,616,889	2,896,230	11,761,197
Iowa	5,376,541	3,931,409	1,437,217	10,745,167
Kansas	5,404,541	3,781,841	1,137,837	10,324,219
Kentucky	4,062,250	3,373,828	1,257,187	8,693,265
Louisiana	3,413,927	2,472,350	1,774,598	7,660,875
Maine	1,864,396	1,333,474	505,956	3,703,826
Maryland	1,935,063	1,182,205	2,054,609	5,171,877
Massachusetts	2,783,698	1,026,797	5,038,809	8,849,304
Michigan	6,877,365	4,196,989	5,634,433	16,708,787
Minnesota	5,822,661	4,106,109	1,971,328	11,900,098
Mississippi	3,946,486	3,287,577	670,253	7,904,316
Missouri	6,369,052	4,309,461	2,981,397	13,659,910
Montana	4,475,436	3,077,359	285,067	7,837,862
Nebraska	4,294,741	3,045,380	710,025	8,050,146
Nevada	2,863,524	1,913,466	92,199	4,869,189
New Hampshire	1,082,813	721,875	351,161	2,155,849
New Jersey	2,865,782	967,042	5,299,454	9,132,278
New Mexico	3,618,689	2,485,056	397,303	6,501,048
New York	10,383,535	4,159,385	16,181,382	30,724,302
North Carolina	5,449,728	4,659,539	1,555,635	11,664,902
North Dakota	3,225,855	2,340,775	204,704	5,771,334
Ohio	7,696,430	4,680,567	7,005,558	19,382,555
Oklahoma	4,742,881	3,394,931	1,322,620	9,460,432
Oregon	3,798,278	2,653,463	970,723	7,422,464
Pennsylvania	8,680,399	5,165,523	9,164,833	23,010,755
Rhode Island	1,082,813	721,875	865,420	2,670,108
South Carolina	2,985,798	2,470,183	832,764	6,288,745
South Dakota	3,452,003	2,465,050	235,135	6,152,188
Tennessee	4,711,574	3,680,474	1,750,601	10,142,649
Texas	14,305,046	9,577,321	5,799,612	29,681,979
Utah	2,540,514	1,680,413	512,969	4,733,896
Vermont	1,082,813	721,875	188,498	1,993,186
Virginia	4,204,200	3,266,315	1,887,806	9,358,321
Washington	3,666,653	2,449,109	1,826,656	7,942,418
West Virginia	2,409,873	2,097,655	787,881	5,295,409
Wisconsin	5,254,962	3,664,818	2,370,616	11,290,396
Wyoming	2,757,134	1,868,238	131,630	4,757,002
Hawaii	1,082,813	721,875	407,089	2,211,777
District of Columbia	1,082,813	721,875	1,045,855	2,850,543
Puerto Rico	1,145,457	1,197,494	1,040,599	3,383,550

A.G.C.-A.A.S.H.O. Asks United Steel Push

• Highway Officials and Contractors Study Mutual Problems

» STRONG representations from the American Association of State Highway Officials and The Associated General Contractors of America met in joint committee at the recent A.A.S.H.O. convention to discuss their mutual problems of highway construction under a defense-regulated economy.

High on the agenda was the consideration of controlled materials and the necessity of securing enough steel to continue an adequate road building program. The committee asserted that only united action by all parties interested in highway transportation would secure the needed steel.

Representatives of both organizations agreed that a great volume of highway work was vital and that next year's volume "must be as large as possible." With that thought, highway departments were urged to advertise all necessary work and assure the maximum of construction possible under the conditions. The importance of steel-saving design was stressed.

The probability of Congressional hearings next month on a new federal-aid highway bill gives additional cause for pushing needed work, it was agreed. Unless highway officials start "vitally needed" projects, the possibility of obtaining increased federal-aid funds will diminish, the committee suggested.

The meeting concurred that the use of termination clauses in highway construction contracts is "most logical." It was reported that five states had passed special laws making such clauses legal and 12 other states were permitting their use.

A slight increase in road building costs was anticipated in the near future as wage rates and building materials rise. Keen competition among contractors was credited for holding costs down.

Many states reported success in securing increased financing for highway improvements this year. It was noted that 35 states have boosted motor fuel levies since World War II. The committee recommended renewed efforts to inform local citizens of highway plans and progress.

The contractors were represented in strength by George C. Koss, co-chairman of the committee for the A.G.C. and president of the Koss Construction Co., Des Moines; S. R. Okes, Okes Construction Co., St. Paul; Hyland P. George, George & Lynch, Wilmington, Del.; John Dieseth, J. D. Dieseth Co., Fergus Falls, Minn.; C. W. Cunningham, Condon-Cunningham Co., Omaha; Harry L. James, Guy F. Atkinson Co., San Francisco; C. E. Maxwell, Maxwell Bridge Co., Columbus, Kan.; Walter Steinwald, Colorado Contractors, Inc., Denver; and Thomas H. Joyce, Joyce Brothers Co., Springfield, Ill.

A.G.C. highway chapter representatives included J. W. Ballard, engineer-secretary of the Kansas Contractors Association; Charles E. McKee, executive secretary of the Ohio Highway Chapter; W. D. Shaw, manager of the Southern California Chapter; Milo Flickinger, executive secretary of the A.G.C. of Illinois; and E. C. Wagner, manager of the A.G.C. of Missouri.

A. N. Carter, Highway Division manager, represented the national office of the A.G.C.

Agency Teamwork Urged on Airport Jobs

• A.G.C.-N.A.S.A.O. Asks Merger of Military-Civilian Programs

» THE JOINT cooperative committee of the National Association of State Aviation Officials and The Associated General Contractors of America concluded recently that the lack of coordination between the civilian and military airport construction programs ought to be remedied.

The committee, meeting in conjunction with the annual N.A.S.A.O. convention in Tucson, Ariz., recommended that an early meeting be arranged among key representatives of the Army Engineers, Bureau of Yards and Docks, Civil Aeronautics Administration, American Society of Civil Engineers and state aviation officials to seek uniformity and cooperation in the construction and improvement of various airports now under consideration.

In those instances where both military and civilian programs were under way, the committee urged that the military allocation be transferred to the CAA and both programs be coordinated under one comprehensive contract.

In a resolution to that effect, the committee asked that such construction be accomplished "through the same general procedure utilized in the federal-aid airport program." It was hoped that such concentration of planning would help eliminate having two or more contractors on the same field, one developing the long-range civilian program of improvements and the other constructing for military accommodation.

The A.G.C.-N.A.S.A.O. committee favored the current use of termination clauses being widely adopted in highway construction contracts. It also reported the success of committee efforts to encourage state financial support for the civilian airport program in a number of states.

The quantity of critical materials allocated by the National Production Authority for civilian airport work was criticized as being inadequate, as were Congressional appropriations for the program. Committeemen felt that civilian airport construction was being severely and unduly curtailed in view of their relation to the national defense and economy.

A.G.C. participants in the parley included A. N. Carter, A.G.C. national staff, Edward O. Earl, president, San Xavier Rock & Sand Co., Tucson; Don Kavanaugh, vice president, L. M. White Contracting Co., Tucson; Joseph P. Condrey, secretary, and Glenn Dowdy, assistant secretary, of the Arizona Chapter, A.G.C.

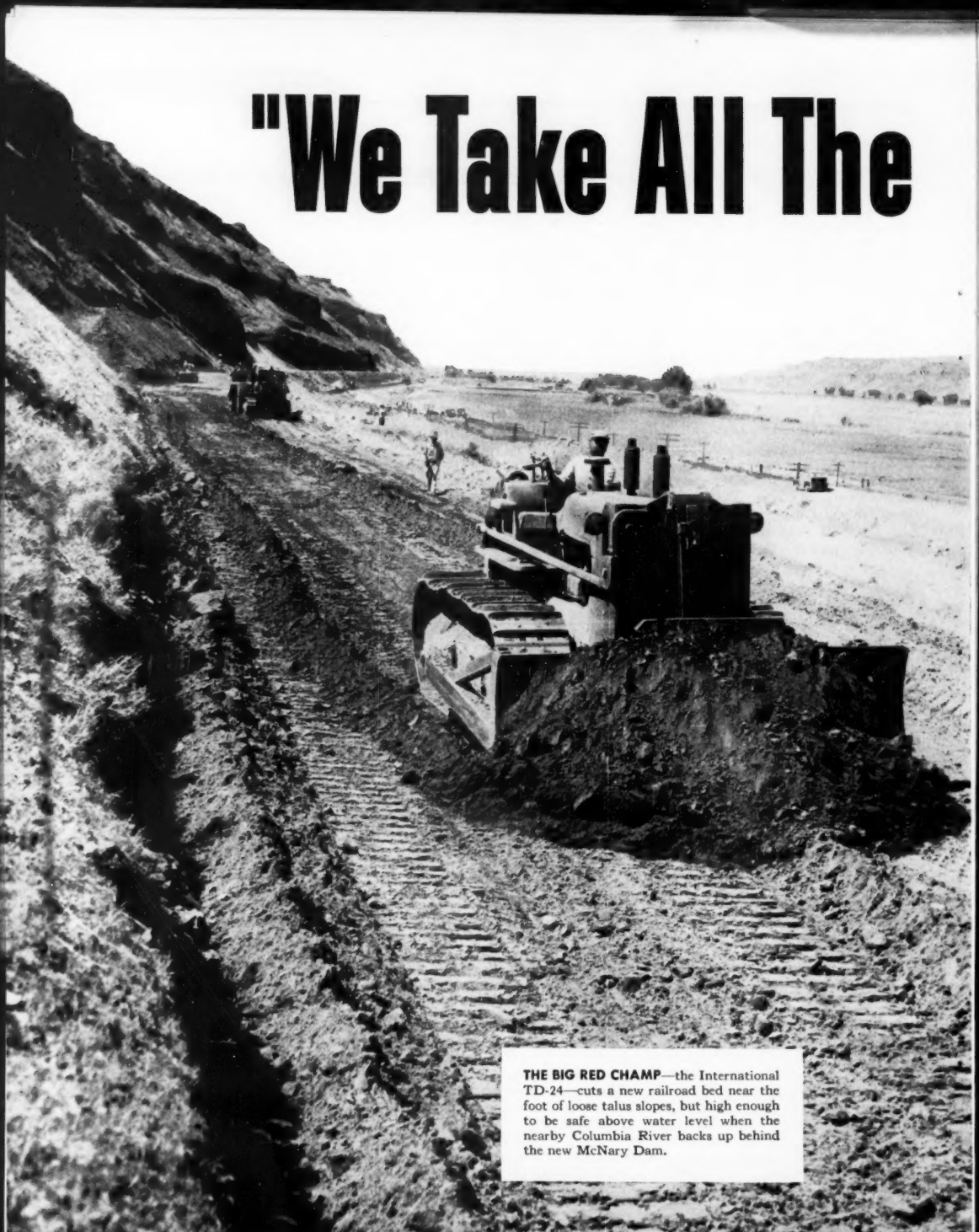
$28.8 Million for Airports

A list of 226 airport construction or development projects to be undertaken under the federal-aid airport program during fiscal year 1952 has been announced by the Civil Aeronautics Administration.

An expenditure of $28.8 million is involved, of which $15 million are in federal funds. They will build and improve a variety of airports—intercontinental, continental, express, trunk, feeder, secondary and personal.

By last June 30, the fifth year of the federal-aid airport program, 1,295 projects had been completed under the program, 410 were under construction and 247 were being readied.

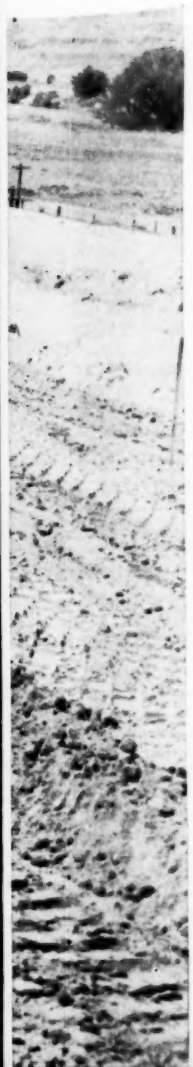
"We Take All The



THE BIG RED CHAMP—the International TD-24—cuts a new railroad bed near the foot of loose talus slopes, but high enough to be safe above water level when the nearby Columbia River backs up behind the new McNary Dam.

TOUGH JOBS"

One man and his Big Red TD-24 handle hardest assignments for western contractor



Out on the big Union Pacific relocation job north of the McNary Dam site, Cardon & Cox—subcontracting for Utah Construction Co.—have an International TD-24 shuttling back and forth from one end of their section of the project to the other, doing the hardest jobs wherever they may be.

TD-24 operator Wilbur Strootman says, "We take all the tough assignments, and do them faster and better than any other tractor on the job. This TD-24 is the best tractor I've ever been on. I really go for it."

Here are five big reasons why—five advantages that make the Big Red TD-24 the work champ of the world:

TD-24 Power—148 maximum drawbar horsepower, more than any other crawler on the market.

TD-24 Speed—8 forward speeds, 8 reverse. Moves loads faster, gets back faster for a faster work cycle.

TD-24 Operation—Synchromesh transmission, you shift "on-the-go." And you go up or down one speed without declutching.

TD-24 Steering—Fingertip steering for pivot turns, feathered turns, turns with power on both tracks.

TD-24 Starting—Quick push-button starting in any weather.

Want to know more? Ask a friend who owns a TD-24. And ask your International Industrial Distributor both about the TD-24 and about his fast field service and complete shop facilities. You'll be a TD-24 man from then on in!

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILLINOIS

INTERNATIONAL HARVESTER

INTERNATIONAL

POWER THAT PAYS

INTERNATIONAL POWER PAYS OFF ON THIS BIG RAILROAD RELOCATION PROJECT

Moles Honor Outstanding Contractors

The 1952 Moles awards for outstanding construction achievement will be presented to two nationally known contractors—Stephen D. Bechtel, San Francisco, and Charles B. Spencer, New York City.

Mr. Bechtel is president of The Bechtel Corp. and Mr. Spencer is president of Spencer, White & Prentis, both members of The Associated General Contractors of America.

Mr. Bechtel was initiated into the construction industry as a summertime employee of his father's firm and as a member of the U. S. Army Engineers during World War I. He was graduated as a civil engineer from the University of California in 1923 and has since distinguished himself for work on Hoover Dam, San Francisco Bay Bridge and pipeline construction in the United States, Canada, and Arabia. Four different Bechtel companies under his direction assume construction of industrial plants, air bases, refineries and defense facilities here and abroad.

Mr. Spencer, after winning scholastic and athletic recognition at Columbia University, worked at railroading, tunneling, architecture and foundation construction until World War I. He served in France, then returned after the war to join E. A. Prentis and Lazarus White in forming the company that still bears their names after 32 years. Completing a thousand contracts all over the world has led Spencer into such jobs as harbor work in Persia, airports in the Bahamas, a bridge in Cuba, subways in New York City, locks and dams on the Mississippi River and, finally, the recent underpinning job on the White House.

Mr. Bechtel

Mr. Spencer

George Ferris, vice president of Raymond Concrete Pile Co., A.G.C., announced the awards as chairman of The Moles Award Committee. They will be presented at the organization's annual dinner in New York City Feb. 6.

Canyon Ferry Dam Contractor Commended by Eagles

John C. Maguire, president of J. C. Maguire & Co., Los Angeles, has been highly praised by the Fraternity of Eagles for his work on Canyon Ferry Dam. The Helena, Mont., Aerie of the society presented Mr. Maguire with a bronze plaque inscribed "in recognition of outstanding achievement in the construction industry." He is head of Canyon Constructors, the joint corporation building the Montana dam.

An F.O.E. spokesman called the huge concrete structure a "monument to American initiative and ability." Above, C. E. Retz, president, Helena Aerie, F.O.E., is presenting Mr. Maguire (center) with the honor award. Looking on is Frank Murray, Grand Aerie regional vice president.

Disposal Plants Needed

Intensified anti-pollution programs throughout the nation are leading to a number of construction projects. In Ohio, 26 cities are working up plans for new facilities, additions, or other measures to combat the problem. In New York City, officials recently laid the cornerstone for a $4 million sewage disposal plant, another step in a $325 million scheme to process all the city's sewage.

Surveys of needed facilities in two other sections of the country have been released by the U. S. Public Health Service. A report on the California Drainage Basin cites the need for 220 municipal and industrial treatment plants to bring water pollution under proper control. That is over twice the number built between 1946 and 1950 in the area—almost all of California and southern Oregon.

Waste treatment plants are needed at 130 municipal and industrial locations in an adjoining area, the Great Basin, which includes portions of Idaho, Nevada, California, Utah and Wyoming, another report states. The cost would be about $9.3 million.

Folsom Dam Contract Let

The Merritt-Chapman & Scott Corp., A.G.C., New York, and the Savin Construction Corp., A.G.C., Hartford, Conn., have submitted the joint low bid of $29,444,000 for construction of Folsom Dam.

The two-mi. long dam on the American River in California will be 340 ft. high. The main concrete section will be 1,400 ft. long and will require approximately 1,108,470 cu. yds. of concrete. Embankments on either side will require about 8,834,000 cu. yds. of earth and rock fill.

All told, 35 large construction companies formed groups submitting the seven joint venture bids received.

* * *

Governor Earl Warren of California has announced that he will ask the state legislature again to finance engineering studies for the billion-dollar Feather River project.

The project, costing an estimated $1.3 billion, would be the largest system of flood control and power works ever conceived for the state. It was authorized in 1951 but no appropriations were made then.

Heavy Construction Notes

The Department of Interior has allotted $6,435,400 for public works in Alaska from the fiscal 1952 appropriation. The funds will go for construction of schools, streets, fire stations and sewerage systems.

* * *

Dr. Leonard Scheele, U. S. Public Health Service, said recently that the nation's water requirements have multiplied four times in the last half century. He estimated that construction of needed water supply facilities would cost approximately $2.5 billion. Among the projects needed, he listed 3,200 new water treatment plants, 8,200 water storage tanks and more than 45,000 miles of pipes.

* * *

For the second consecutive year, Merritt-Chapman & Scott Corp., A.G.C., has been awarded the "Oscar of Industry" for having the best annual report in the construction service industry.

The firm won the trophy in a field of 5,000 entries. As was the case last year, Morrison-Knudsen Co., Inc., A.G.C., was runner-up for top honors and Lane-Wells Co. placed third.

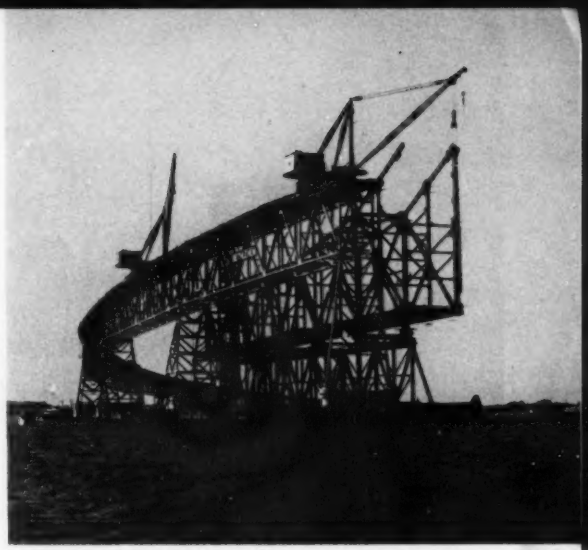
* * *

The tremendous expansion of a competent construction firm is noted in the announcement by Merritt-Chapman & Scott that it has uncompleted contracts with a total value of $132,930,706 on its books. Ralph E. DeSimone, executive vice president, states that the figure exceeds the total value of all construction contracts completed by the company during the five-year period, 1946 to 1951.

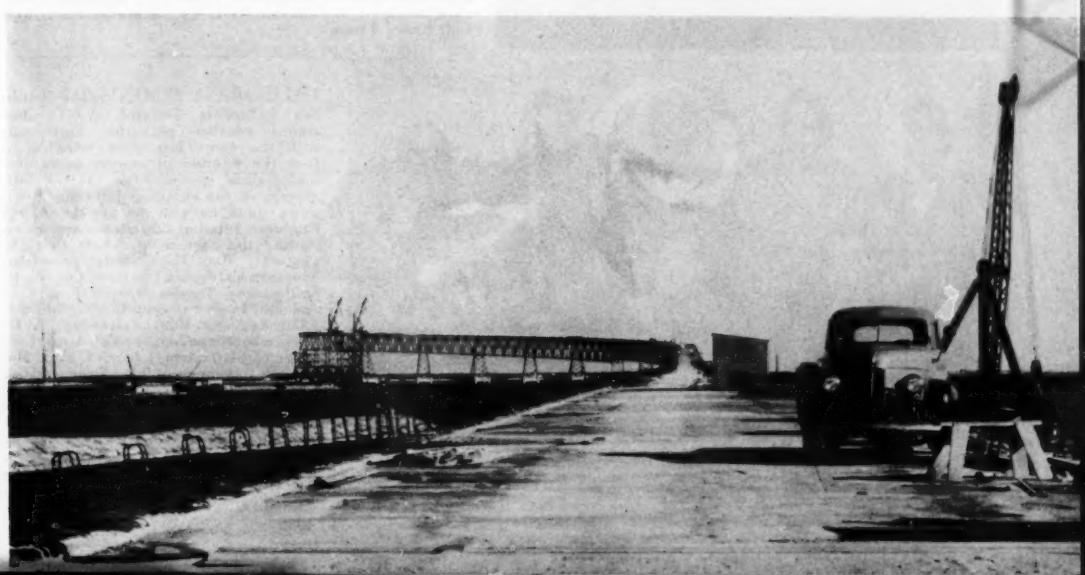
* * *

Effective last month, four off-shore military construction districts and an engineer group, heretofore under the North Atlantic Division, New York, have been placed under a new division—the East Ocean Division.

Established to supervise off-shore military construction assigned to the Corps of Engineers, the office will be located in Richmond, Va.



Three new photos of the Chesapeake Bay Bridge. Top, the new structure is fast approaching its ultimate height which will give 183-ft. clearance over the channel. Middle, looking past the working scene and across the unspanned distance to be bridged. Bottom, the roadway approaching the structure has just been completed. Total length of the bridge, with approaches, will be six miles.



Oklahoma Unit in the Rockies

The 973rd Engineer Construction Battalion is learning the rigors of construction on mountainous terrain as is carves out trails and builds bridges on the high slopes of the Colorado Rockies.

The Oklahoma City outfit, sponsored by the Association of Oklahoma General Contractors, has been at Camp Carson, Colo., since late in 1950. There, the 780 men of the A.G.C. affiliated reserve unit have been learning the rudiments of mountain fighting and from that base have been making periodic forays up the high hills near Pike's Peak.

They have built numerous wooden trestle bridges, miles of trails and roads and even a fire lookout tower perched 9,345 ft. above sea level.

On these projects the engineers maintained a 24-hour guard with a field telephone communications set-up. Workmen labored either with rifles, gas masks and helmets strapped on, or within immediate reach, to similate actual battle conditions. Equipment and machinery were carefully camouflaged at night.

Company "A" built the fire lookout station. Plodding mules carried their equipment up the yard-wide trail to the site before construction could begin. Even the light portable machinery used on the job had to be hoisted 250 ft. by winch to the peak where the tower would stand.

Companies "B" and "C" have been busily gouging out mountain roads during maneuvers at a distance from camp. Company "B" at one time was slated to notch out a dirt-surfaced fire trail 38 mi. away. Biggest hurdle was the rock blasting required on the four-mi. project. The Oklahoma soldiers built a saw mill and six wooden trestle bridges on the route, little used since prospectors picked for gold there.

On such terrain, Commanding Officer Ralph E. Thornton's men are getting realistic practice in the role of the combat engineer.

Standing atop a 9,345 ft. summit, Cpl. William Toumbs of Oklahoma City drills holes for foundation of new lookout tower. Air compressor is 250 ft. below. In middle left photo, three other men from the 973rd Engr. Const. Batt. drill holes for charges to blast out a mountain road; (left to right) Cpl. Jackie Jack, Pfc. Clarence Laski and Cpl. James Patton.

CALIFORNIA AGAIN!—The Southern California Chapter, A.G.C., has signed another affiliation agreement with the Army Engineers bringing to four the number of reserve units now under their sponsorship. At the left, officers of the chapter, the Army Engineers and the new outfit—the 425th Engineer Aviation Battalion—are shown signing the agreement. Left to right (seated), Ben P. Griffith, president, Southern California Chapter; Col. W. R. Shuler, Los Angeles District Engineer; and W. L. Seitz, commanding officer, 425th Engr. Av. Batt.; (standing) W. D. Shaw, chapter manager; Col. C. C. Cavender of Sixth Army; Lt. Col. F. S. McNamara, commanding officer, 916th Engr. Av. Batt.; Lt. Col. John R. Jannarone, executive officer, Corps of Engineers; and Maj. A. U. Turner, unit instructor, Sixth Army.

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for the nation's armed forces in the United States and throughout the world.

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with a record of outstanding engineering feats in Korea.

★ **CONSTRUCTING PRODUCTION FACILITIES**
which are increasing America's manufacturing and productive capacity.

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essential to the growth and development of our nation and its communities.

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to repair damage caused by war or other disaster.

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with all branches of the construction industry.

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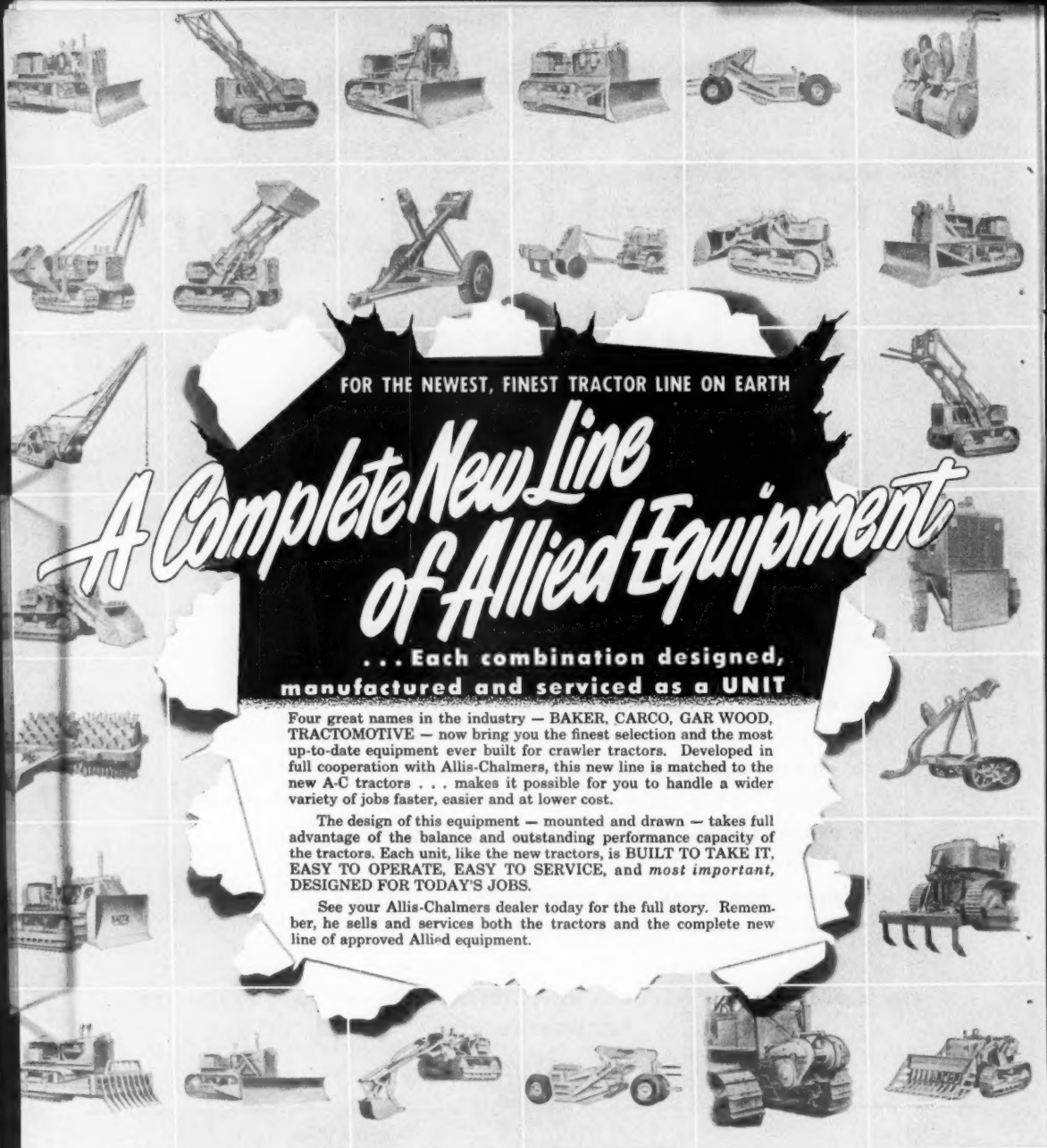

FOR THE NEWEST, FINEST TRACTOR LINE ON EARTH

A Complete New Line of Allied Equipment

. . . Each combination designed, manufactured and serviced as a UNIT

Four great names in the industry — BAKER, CARCO, GAR WOOD, TRACTOMOTIVE — now bring you the finest selection and the most up-to-date equipment ever built for crawler tractors. Developed in full cooperation with Allis-Chalmers, this new line is matched to the new A-C tractors . . . makes it possible for you to handle a wider variety of jobs faster, easier and at lower cost.

The design of this equipment — mounted and drawn — takes full advantage of the balance and outstanding performance capacity of the tractors. Each unit, like the new tractors, is BUILT TO TAKE IT, EASY TO OPERATE, EASY TO SERVICE, and *most important*, DESIGNED FOR TODAY'S JOBS.

See your Allis-Chalmers dealer today for the full story. Remember, he sells and services both the tractors and the complete new line of approved Allied equipment.

Years Ahead

Each of the new Allis-Chalmers crawlers provides a new yardstick for rating tractors. Each sets new standards for performance, strength, servicing, operation.

HD-5	40.26 drawbar hp.; 11,250 lb.
HD-9	72 drawbar hp.; 18,800 lb.
HD-15	109 drawbar hp.; 27,850 lb.
HD-20	175 net engine hp.; 41,000 lb. Hydraulic Torque Converter Drive

ALLIS-CHALMERS

TRACTOR DIVISION · MILWAUKEE 1, U. S. A.

Winterize Your Tractor Now

By Fred J. Schreck

Supervisor of Service, Industrial Power, International Harvester Co.

» OLD MAN Winter pulls no punches and plays no favorites. He packs an icy fist and blows a cold, cold blast. One thing you can bank on:

Winter downtime will cost you money unless you winter-condition your crawler tractors right now.

Cold weather repairs are difficult to make in the field. The strain of low temperature starting and the use of incorrect grades of oil often turns small defects into breakdowns. So don't even try just "getting by" this winter. Start your preventive maintenance program for crawlers at the first opportunity before the cold sets in.

Inspect for Oil Leaks and Wash Down

The very first thing to do is check for oil leaks. Look for collections of new oily dirt in odd places. And in the case of a dirty engine, look for places where leaking has streaked the dirt. Make the same careful visual inspection of the engine transmission and final drive housings, the sprocket gear and track rollers.

The next step is to clean the tractor and engine—for four basic reasons:

1. Aids proper cooling of engine
2. Shows up oil leaks faster
3. Decreases fire hazard
4. Gives operator more pride in his tractor

Proper engine cooling is especially important in cold weather operation because the lighter winter oils run hotter than heavier oils. The oil film protecting moving parts gets thinner as oil temperature rises. Therefore, any crankcase dirt pack left on impedes proper cooling of light oils and reduces their lubricating effectiveness.

Cleaning can be done with high pressure hose or steam. However, a 2-in. low-pressure stream is preferable. Wipe off the bad spots with diesel oil or kerosene. Using low-pressure water eliminates the possibility of damage to any gaskets or seal points.

Lubrication System

In going over the lubrication system for winter, begin at the crankcase. Engine oil gets heavy with use because the light ends of the oil burn off in combustion leaving heavier base oil.

Drain old oil from a thoroughly warmed-up engine, preferably after a day's run.

Then flush crankcase with regular crankcase flushing oil—not diesel fuel or kerosene. (Sometimes when kerosene or diesel is used, enough is trapped inside to cause foaming of the new oil when crankcase is refilled.)

Run the engine at half-throttle with the flushing oil for half an hour.

Drain oil filter, wipe inside with clean rags and replace old filter elements with new.

Now refill crankcase with grade of oil recommended by manufacturer for temperature at which tractor is to be operated. Change oil in fuel injection pump but do not flush.

Transmission, final drive and sprocket drive are next on the list. The lubricants in these units become heavier with use. In fact, if high-viscosity lubricants are left in too long, they will lose good lubricating characteristics and tend to "channel" around the moving parts so that the parts run dry. As these units heat up in use, dirty oil on outside of housing is sucked inside through any seal leaks or the ventilator.

Metal-wear particles also become mixed in lubricant. If there is any doubt of this, magnetize a rat-tail file and stick it in the housing. It will come out covered with metal particles that can cause serious wear.

For these reasons drain the lubricant without fail even though the units appear full. Then put in flushing oil, not kerosene or diesel fuel, and run tractor 15 minutes, not under load. Drain or refill in accordance with manufacturer's recommendation.

Next, refill the lubricating gun with the proper lubricant and force old lubricant out of track rollers with new. Follow this with a complete chassis lubrication. Wipe off excess lubricant. It gathers dirt and is sometimes drawn back into lubricated point by heat. This causes rapid wear.

Electrical System

Clean battery terminals with solution of warm water and baking soda using a wire brush. Dab grease or special paste on terminals and tighten.

Also check specific gravity of cells with hydrometer. Water level should be brought up with distilled water. Continual low water in battery is an indication of an overcharge condition which calls for corrective action by

Removing and cleaning the crankcase breather. Crankcase ventilation is always important but cold weather causes more condensation and acid fume conditions than are found in warm weather operation.

authorized repair personnel.

Look for worn-out brushes on the commutator and generator armature. Here again, repairs should be made only by distributor's mechanics.

Voltage regulator, starter and generator should be checked, tested and adjusted. This can be done effectively only by a qualified mechanic using proper testing equipment. This equipment is portable however, and can be taken to the job site by most distributors.

In case of a bad connection or corrosion, voltage regulator would not work properly causing high voltage and low batteries. Indications of this are continual low water in battery and premature wear of commutator and brushes.

Next, visually check brushes and bushings of starter and commutator.

Combustion System

For fast starts and peak efficiency during winter, there's nothing more important than proper adjustment of the combustion system. Start by cleaning plugs and properly spacing the gap. Check all spark plug wires and connections.

Adjust or replace magneto or distributor points as needed. Clean magneto impulse coupling with kerosene and lubricate with a light oil. SAE #10 is satisfactory in most cases.

Don't overlook the air cleaner. It should be removed and disassembled. Wash out with diesel fuel or kerosene. Reassemble and fill with recommended grade of oil, usually the same as that used in crankcase.

Be sure to check all air cleaner connections to inlet manifold. See if leaks are indicated and make repairs where necessary.

Diesel fuel filters and water traps shouldn't be passed over. Take them apart and wipe out with clean rags. Otherwise, the water and debris will cause a starved condition and reduce engine power as fuel gets heavier with cold.

Cooling System

First of all, check for leaks in the head gasket. To do this, remove radiator cap and fill level with cap. Start engine and run long enough to open thermostats. Accelerate suddenly. If bubbles appear, it is a good indication that cylinder head gaskets leak.

Also check for leaks in hose and hose connection and water pump packing. Check radiator for leaks by careful visual inspection.

Flush radiator with flushing compound or a solution of baking soda. Leave off radiator cap and run until hot. Drain and flush with clean water. Drain and refill with the anti-freeze called for by manufacturer.

Also check the fan belt and fan belt drive pulley for looseness and adjust.

A good way to clean the outside of the radiator is to splash water from a 1 pound coffee can through the fins with the engine at high idle. The fan will draw water through radiator and suck out a lot of debris that can't be seen lodged between the fins. *Caution:* There is danger of breaking the fan blades using this method if more water than a 1-pound coffee canful is used at a time.

Engine Ventilating System

To insure proper combustion and lubrication, clean the complete engine ventilation system including crankcase breather on side of engine, breather pipe and elbows on top of valve cover. This step is important because these pipes take out condensation which often causes corrosion and failure of valve springs and rocker arms. This is one precaution that should be underlined. Furthermore, it is recommended that engine ventilating systems be checked frequently during cold-weather operation.

Cold Weather Starting Tips

For tractors working and parked for extended periods in cold, it's a good idea to equip them with hood sides.

Avoid parking tractor in exposed place for long period without running. If necessary to keep it out in winter, run it at least once every day.

In temperatures of ten degrees or below, dilute oil in air cleaner and crankcase with kerosene in accord with manufacturer's specifications.

Fill fuel tanks at end of work day to prevent collection of moisture.

Storing Tractors Over Winter

Store in dry and protected place.

Thoroughly wash and clean tractor.

Completely lubricate tractor. Drain diesel fuel tank, water trap and fuel filters; open air vents to secure complete drainage. Then close vents. Work flushing oil through the fuel injection system as recommended by manufacturer.

Drain all water from cooling system.

Drain all gasoline from gas tank, strainer bowl and carburetor.

Attach an oil can to an air gun and, using a light oil with rust inhibitor, spray inside spark plug holes, inside the valve cover and all surfaces above oil level. Then spray inside gas and fuel oil tanks.

With these simple precautions, whether you work or store your crawler this winter it will last longer and not fail on the job when Old Man Winter's chips are down.

Machinery Shortage Studied

The problem of distributing sizes and types of tractors, cranes, shovels, bituminous pavers and rollers which are in heavy demand but in short supply due to material shortages was discussed at a meeting of the Construction Machinery Industry Advisory Committee last month with the National Production Authority.

Of three solutions to the problem proposed by NPA, the committee preferred one which recommended tightening the criteria for issuance of DO orders. It asked that claimant agencies apply the ratings sparingly to assure construction machinery for only the most critical requirements.

The industry's first quarter (1952) allotment of carbon and plate steel is expected to about equal that received in the fourth quarter, but alloy steel would be cut.

Equipment Exports Reviewed

The Construction Machinery Export Advisory Committee has recommended that the industry's established distribution pattern in world trade be kept intact in meeting normal commercial foreign need for equipment.

Committee members indicated in a recent meeting with the Office of International Trade that market demand for American construction machinery is four times as high as the quantity that can be exported. They suggested that the best interests of defense would be served if the government would screen out the most essential projects and assign a percentage of the total export supply of construction machinery to those projects.

However, in meeting the normal commercial needs of other nations, the industry requested freedom from government direction. Such interference would disrupt long-term production, delivery schedules and equipment maintenance services rendered by manufacturers' distributors, the industry said.

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with BUFFALO-SPRINGFIELD

Gardner

SEGMENTED ROLL

Official Tests Prove Buffalo-Springfield Gardner Roll Gives 3 to 7% Greater Compaction with Fewer Passes!

Actual tests, on projects under engineering supervision, reveal these important facts about this revolutionary new roll. When used in place of the smooth-faced guide roll on a conventional tandem, it increases compaction densities 3 to 7%, produces a better textured surface, less susceptible to traffic damage. Further—experience in compacting a variety of materials—including earth fills, stabilized bases and hot and cold mix bituminous—proves fewer passes are required to achieve specified densities.

Here's what T. F. Baun, president of Baun Construction Company, Fresno, California, says about performance of this great new roll on a recently completed California State Highway Project:

"The roll did an excellent job, both from an engineering and cost standpoint. We used it to compact the soil cement treated base, the plant mix base and the finish surface. In addition to saving the cost of other equipment, we got better compaction—in most cases with fewer passes—than if conventional type rollers had been used."

There's an Authorized Buffalo-Springfield Distributor Conveniently Located to Serve You

The Buffalo-Springfield Gardner roll is interchangeable with the smooth-faced guide roll on Buffalo-Springfield Tandem models KT-19, KT-20, KT-24B and KT-25B tandem rollers. It is also furnished for previously manufactured Buffalo-Springfield models KT-24 and VT-30.

Investigate the time-and-money saving, quality-improving advantages of the Gardner roll. See your Buffalo-Springfield distributor, or write direct.

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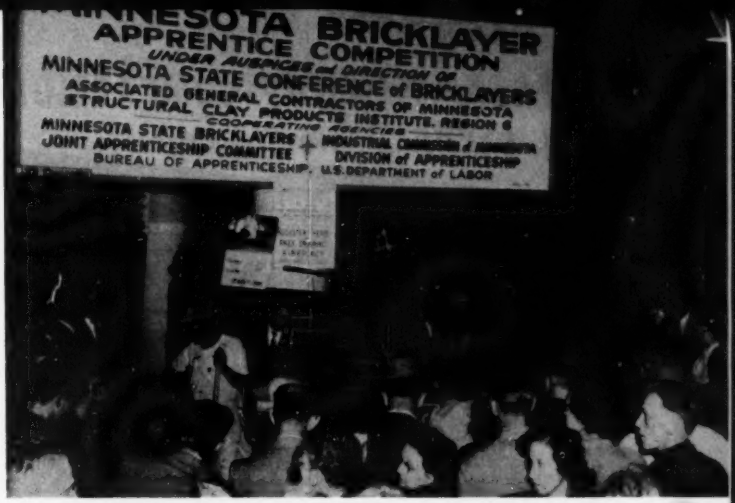

Contest Sparks Minnesota Apprentices

• Lavish Prizes, "Duffers' Contest" Featured at State Fair

» A PRIMARY and harassing concern of the construction industry is the present shortage of bricklayers and bricklayer apprentices.

This problem was given special attention at the midyear meeting of the A.G.C. Governing and Advisory Boards by the Apprenticeship Committee which urged that increasing effort on the part of the industry be directed toward increasing apprentice training enrollments which were reported to be 11% below 1950.

During the midyear meeting, a bricklayer apprentice training film, produced through the efforts of the A.G.C. of Minnesota and other construction interests in the State, was shown for the benefit of A.G.C. chapter managers and general contractors.

In the Apprenticeship Committee's report to the boards, the A.G.C. of Minnesota, managed by R. J. Hendershott, was cited for its co-sponsorship of bricklayer contests. This, the committee stated, is the sort of program which cultivates a wide and effective interest in the trade, and is one of the most substantial means of recruiting young men to fill a threatening void. The committee recommended more publicity, program contests, and the aid of a full-time program coordinator.

214,000 Down at the Fair

The A.G.C. of Minnesota, a leader in apprenticeship programs for many years, with the assistance of its coordinator Harold W. Mattke, annually features outstanding contests for local bricklayer apprentices along with manufacturer and labor union groups.

During the 1951 annual state fair, the contest was brought before the tremendous crowd of 214,000 fair ground visitors over a nine-day period.

Not depending on curiosity alone, promoters of the Third Annual Bricklayer Apprentice Competition featured many added attractions to draw the attention of fair-goers.

Offer of an outdoor fireplace to be built anywhere in the state for the winner, drew 51,000 to the apprentices' booth for free chances.

Even the ladies were considered. Every day a "duffers" contest was held in which the women, assisted by an apprentice, turned a hand to the fine art of bricklaying and an eye to the prize given each contestant.

Visiting journeymen drew chances for $25 defense bonds.

The sponsors, the A.G.C. of Minnesota, the Structural Clay Products Institute, Region 6; and the Minnesota State Conference of Bricklayers put up almost $6,000 in cash and merchandise to fund the competition.

The 21 apprentices who competed were paid a day's wages and travel costs. Daily prize awards given to each contestant included work gloves,

Duffers' Contest: Minnesota co-eds try their hand at the not-so-simple art of bricklaying. Grandmothers and wives participated too.

Above: Lloyd E. Ness receives the $300 grand prize check from E. Richard Cone, president of the Minnesota Chapter, American Institute of Architects. Left to right are Finalist Judge Frank J. Rooney, Miami, president of the South Florida Chapter, A.G.C.; Mr. Ness; John Dieseth, Fergus Falls, President of the A.G.C. of Minnesota; Mr. Cone; and Finalist Judge William T. Roark, mason promotion field director, Structural Clay Products Institute, Washington.

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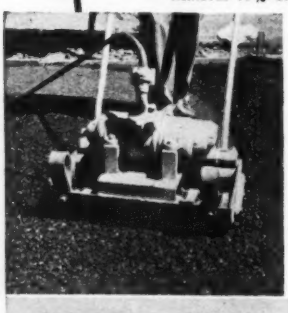

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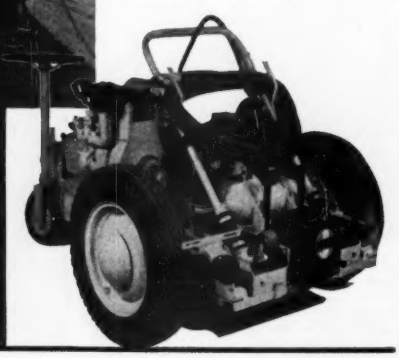

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APPRENTICE TRAINING

overalls, alpaca lined jacket, inscribed gold trowel, line trig, modul bricklayer's rule, convex jointer, and in addition, the winner of each daily contest was given $25. The four finalist winners also received a gold trowel studded with a diamond.

Ness Takes $300 First Prize

Besides all this, finalists Lloyd E. Ness of St. Louis Park received a $300 1st prize; Richard E. Bye, Minneapolis, a $150 2nd prize; Edward Weber, Rochester, a $100 3rd prize; and Floyd Lindman, St. Paul, a $50 4th prize.

For these men and their fellow contestants, the trip to St. Paul was a most rewarding one.

A.G.C. Apprenticeship Award

Annually The Associated General Contractors of America presents an award to the A.G.C. chapter secretary or manager who has shown outstanding accomplishments in apprentice training activities.

The basis of the association's sponsorship was the acute need for construction apprentices, which need has become an increasing threat with the acceleration of the defense preparedness program.

The award was initiated in 1950, and first presented at the association's 1951 convention to W. W. MacLaughlin, secretary-manager of the Memphis Chapter.

Contestants are judged on the basis of a record of their accomplishments which must be filed with the A.G.C. national office in Washington by January 15, 1952.

Records should include a detailed description of chapter activities in the field of apprentice training during the contest year, and a list of members who were active in apprentice training programs.

Participants should also indicate the trades for which the chapter has helped to establish or expand programs, the local area which the program covers, the number of apprentices indentured or dropped, and the number of journeymen in each trade who are available for employment.

A complete plumbing apprentice training course is now available in seven volumes costing $15. Orders should be sent to Joint Apprentice Text, Inc., 502 Ring Bldg., Washington, D. C.

Harry A. Dick, A.G.C. Leader, Succumbs After Long Illness

- Revered by Many in Association Through U. S.
- Past President Pioneered A.G.C. in Northwest
- Was Active Until Death of Heart Ailment

» HARRY A. DICK, the 26th president of The Associated General Contractors of America in 1945, died at his home in Portland, Ore., on Nov. 9 of a heart ailment which had started in his early youth.

The funeral services on Nov. 13 were held in the Drawing Room Chapel of the Colonial Mortuary with interment at the Riverview Cemetery Mausoleum. Rev. George R. Turney, of St. Michael and All Angels Episcopal Church, officiated at the simple but impressive services.

Harry Dick was a national leader in the construction industry. He was a success in the business of general contracting, and a loyal worker for improvement of the industry through the A.G.C. in the Northwest and nationally. His funeral was attended by a host of his friends in business and the association from many parts of the country.

Tireless in Industry Work

In notifying members of the association of his death, Managing Director H. E. Foreman telegraphed in part:

"For years he had been a leader in the industry. In the association, locally and nationally, he was a tireless worker for improvement of the A.G.C., a true gentleman, and the warmest of friends."

Representing the A.G.C. nationally from outside the Northwest were Past President Adolph Teichert, Jr., Vice President Arthur S. Horner, and Mr. Foreman. Many of his business associates and A.G.C. members in the Northwest were honorary pall bearers.

Honorary bearers were T. H. Orem, D. V. McEachern, J. E. Beardsley, B. H. Cook, J. Samuelson, C. W. Woods, J. A. Samuelson, R. W. Jones, C. W. Nash, C. M. Sanders, R. P. Stockwell, J. W. Ginella, G. H. Shea, G. E. Kibbe, Natt McDougall, R. H. Northcutt, J. R. Wininger, J. P. Hart, H. E. Foreman, G. W. Maxon, A. S. Horner, W. Muirhead, A. Teichert, Jr., W. S. Bellows, Theodore Arenz, H. A. Kuckenberg, F. W. McEachern, R. B. McEachern, and Albin Larson.

Bearers were Otto Hermann, A. B. McEachern, W. R. Miller, L. P. Pendall, H. N. Black, and A. H. Harding.

Native of Chicago

Mr. Dick was born in Chicago on April 18, 1888, and attended grade and high schools in that city. He first went to the Pacific Coast in 1906, and had his first contact with the construction industry in 1907 on pier foundations for a railroad bridge for the Oregon-Washington Railroad & Navigation Co. He continued in construction throughout his life.

Harry A. Dick

He was connected with the Engineering and Construction Department of the Union Pacific Railroad, and Stone and Webster, until he joined the J. A. McEachern Co. in 1918. When the Gilpin Construction Co. was organized in 1919, he became its secretary. In that company he became treasurer in 1922, vice president in 1932 and president in 1936. He later became president of the General Construction Co., and during the war was vice president of the Oregon Shipbuilding Corp. With these companies he took part in many of the outstanding heavy, railroad and highway construction projects of the Northwest for many years.

In 1910 he married Miss Mary Lu Smith of Lewiston, Idaho, who survives him along with a daughter, Mrs. David R. Wiley, and a son, Harry A. Dick, Jr., of Portland; two sisters, Mrs. Harry S. McEachern, of Portland, and Mrs. G. A. Stookey, of Olympia; two brothers, L. W. Dick, of Yakima, and R. S. Dick, of Everett, Wash.; and four grandchildren.

In keeping with the character of the man, his family announced after his death that, if desired, in lieu of flowers his friends might make donations to the Oregon Heart Association in memory of Harry A. Dick. A.G.C. members and chapters from all parts of the country did this.

A member of the St. Michael and All Angels Church, he also belonged to the Arlington, University and Washington Athletic Clubs.

Throughout his career, Harry Dick worked for the improvement of the industry. He was one of the original members of the Portland Labor Management Committee, which gained national recognition for its handling of labor-management problems.

Interest in A.G.C.

One of his greatest interests in life was the A.G.C. He was one of the pioneers of the Pacific Northwest Branch. He held every office in the Portland Chapter including the presidency in 1938 and 1939. Throughout the Pacific Coast and Northwest areas, A.G.C. members always looked to Harry Dick for guidance.

In the national A.G.C., Mr. Dick had been a director, member or chairman of various committees, vice chairman and chairman of the Heavy Construction and Railroad Contractors' Division, and vice president before he became president in 1945.

His term covered the difficult period during which World War II was concluded and the reconversion period began. During this period he spent much time in Washington or other parts of the country doing his best to smooth the reconversion problems of the industry. He continued to take an active part in A.G.C. work until his death.

The pride and respect he held for the A.G.C. were probably best demonstrated by the A.G.C. emblem which was in the lapel of his coat at his interment.

Study Reveals Safer Blasting Methods

- Better Ways of Using Electric Blasting Equipment Suggested

» HAZARDS connected with electrical blasting equipment may be reduced.

A recent study made by the Engineer Research Development Laboratories at Fort Belvoir, Va., produced notable findings in the investigation of lightning, static electricity, radio transmitters and power lines and their effect on blasting operations.

These producers of extraneous electrical energy present the most serious hazard in the use of blasting equipment.

As lightning is the most unpredictable and the most uncontrollable cause of detonation by direct hit, or by striking ground within a mile, the only precaution against premature detonation is to cease operations entirely during a storm.

Findings show that grounding one leg of a blasting circuit at one or both ends offers no protection. But if it is necessary to fire during a storm, holes should be fired with a detonating fuse which contains no metallic braid or conducting components. Series firing with avoidance of loops in the lead wire will also contribute to safety.

Static Electricity

Death lurks in escaping steam, moving belts, revolving auto tires and other producers of static electricity, if located near electrical blasting equipment. To avoid possible detonation in charged air, cap wires should be straightened out along the ground, not thrown. Best solution is to use spool wound caps.

To reduce the hazard of mechanically developed static, all moving equipment should be grounded by a circuit of not more than one ohm resistance. Connections should be insulated. Wires should not be placed near other wires, and pipes. Shunts on cap leg wires should not be removed until explosive charges have been placed and firing circuits are ready to be hooked up.

Radio Transmitter Hazard

The study failed to reveal any improved means of operating electric blasting equipment in the vicinity of a radio transmitter. Danger spots can be checked by setting up a dummy circuit with a low-current light bulb. But the only sure method of detonation which guarantees safety is to blast only when the transmitter is not operating.

Tests of operations near transmission lines showed that both induced currents and voltages in the electromagnetic field will decrease as the area described by the test loop decreases. Best results in the dielectric field are obtained by keeping wires on the ground. Induced effects from the dielectric field increase greatly as the wires are raised.

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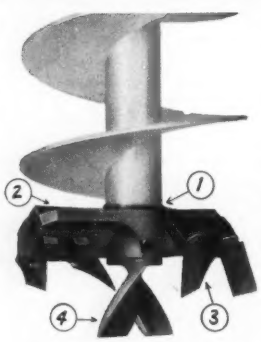

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Associations Excel in Safety Promotion

- Members' Accident Rate Falls, Non-Members' Rate Increases

» THAT THE MOST EFFECTIVE means of stimulating safety programs among small firms is through the associations of which they are members was the theme of the Associations Committee of the National Safety Council at its meeting in Chicago in connection with the 39th annual Safety Congress.

$12,500 Given for Campaign

The committee, which recently rereceived a grant of $12,500 from the National Association of Mutual Casualty Companies to stimulate its campaign, is attempting to reach and interest small businesses through trade associations, national business associations, state manufacturing associations, insurance companies, and other groups with promotional and distribution facilities to supplement the Council's material and services.

The group was told by Chairman H. F. Reinhard, manager of the Safety Codes Dept. of Union Carbide and Carbon Corp., New York City, that companies with fewer than 100 employees have an accident frequency rate (disabling injuries per million man-hours worked) two and a half times that of large companies. "The most effective means of reaching these firms to promote accident prevention," Mr. Reinhard said, "is through the associations of which they are members."

Member Company Rates Reduced

Mr. Ivan F. LeGore, manager, Accident Prevention Bureau, Portland Cement Association, told the meeting that as a result of the intensive safety campaign waged for the past 25 years by his association member companies have reduced the frequency of accidents about 80 percent, while the accident rate of non-members has been found to range from five to eleven times greater.

"One of our member plants," said Mr. LeGore, "with a payroll of about 85 men, has not reported a chargeable disabling injury to any employee since February 20, 1937, or 5,300 days ago. That record is continuing. A larger plant, with about 480 employees, established a record in excess of 5,333,000 safe man-hours in 1,921 days, but saw it terminated by an accident last year."

Individual Company Effort Needed

"Nothing takes the place of individual company effort in the prevention of accidents," Mr. LeGore stated. "However, coordination of the talent and experience of a group of organizations in the same field will take them farther and faster along the road to control. There are many instances where individual companies acting on their own initiative have made a success of safety work, but no case of a whole industry achieving a low accident record except where there has been cooperative effort along these lines through its trade association. Within an industry there is a similarity of personnel, practices, equipment and hazards which makes close interchange of experience and a united attack on common problems particularly valuable. Safety programs and activities that prove helpful to one company are usually beneficial to all."

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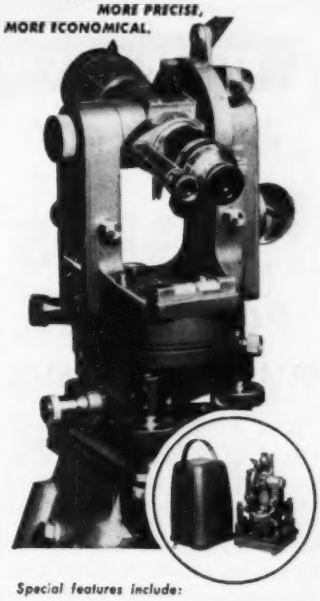

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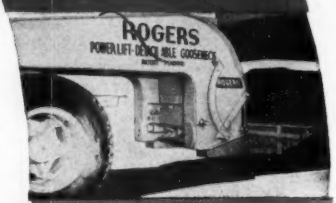

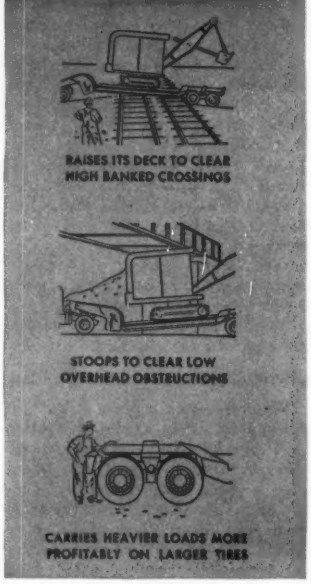
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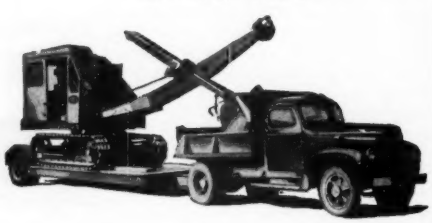

ACCIDENT PREVENTION

A. E. Murphy, executive director of the Folding Paper Box Association of America, told the meeting that dollars and cents still offer the best arguments in favor of preventing accidents.

Management Must Sponsor Safety

"Organizing a general safety program among a group of business firms can make the best headway when the individual managements can be convinced that it is a way to reduce operating costs," Mr. Murphy said. "After an association has been convinced of the economy reflected in a safety program, the next step is to prove with facts and figures that such a program does work and then gradually to expand it throughout an industry."

Mr. Murphy pointed out that the financial saving of successful accident prevention provides an added incentive beyond its humanitarian aspects.

The Associations Committee, formed last year, will hold future meetings in selected cities to further its program. A. M. Baltzer, of the National Safety Council's Industrial Department, is Staff Engineer.

The A.G.C. was represented at the Chicago meeting by J. M. Sprouse, of the national office staff, who also attended the previous meetings of the committee.

Indirect Cost of Accidents

The accident: A workman used a wrench with sprung jaws to tighten the clamp bolts of the cable drum of a stiff leg derrick. The wrench slipped causing severe abrasions of the workman's right hand.

Direct cost: $4 for first aid and doctor's fee.

Proximate results: While the derrick raised a 20-inch "I" beam, 20 feet long, to the roof of the building under construction, the neglected cable clamp slipped. The beam feel to the roof, knocking down a scaffold. The derrick boom collapsed dislodging a cornice stone which fell 13 stories rupturing a fire main which flooded two floors above the street and damaged electrical power equipment in the basement.

Indirect cost: $17,400

Prevention: Keep unsafe tools off the job.

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2.	Accident Prevention Manual (Revised and enlarged 1949)	3.00	30.00	$210.00
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41.	A.G.C. Decalcomania Seal (red and black)	
	a. 10" dia.	.20
	b. 5" dia.	.10

Metal Seals and Decals: 20% discount for orders of more than 50; 40% discount for orders of 200 or more.

43. A.G.C. SOCIAL SECURITY FORMS

Form SS1: Application for Employment; Form SS2: Employees' History Record; Form SS3: Employees' Employment and Earnings; Form SS4: Payroll. List of prices and styles will be furnished to A.G.C. members on request.

USE THE CONVENIENT COUPON TO PLACE YOUR ORDER

Order No.	Amount	Cost
1.		
2.		
3.		
4.		
5.		
7.		
8.		
9.		
11.		
12.		
16.		
17.		
20.		
21.		
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28.		
29.		
30.		
34.		
35.		
36.		
36a.		
37.		
38.		
40.		
41a.		
41b.		

43. Price List and Samples ☐

Price List and Styles of Emblem ☐

TOTAL COST _____

Make Checks payable to CONSTRUCTION FOUNDATION, A.G.C., Munsey Building, Washington 4, D. C.

Gentlemen: Enclosed find check for $_____ for which please send materials as ordered by number herewith.

*Name*_____ *Address*_____

*City*_____ *Zone*_____ *State*_____

Dec. 1951

Carolinas Branch Holds Annual Convention

• Ballenger Elected President; National Officers Speak

» THE 31st ANNUAL convention of the Carolinas Branch, A.G.C., was attended by over 600 members and guests who heard talks on national and local conditions in the construction industry.

C. P. Ballenger, Jr.

C. P. Ballenger, Jr., Ballenger Paving Co., Greenville, S. C., was chosen to succeed Hal S. Crain, Crain & Denbo, Inc., Durham, N. C., as president for the ensuing year.

Other officers elected during the Oct. 14-16 meeting at Pinehurst, N. C., are Vice President M. R. Cowper, Barrus Construction Co., Kinston, N. C.; and Treasurer Roy L. Goode, Goode Construction Corp., Charlotte, N. C. Robert Patten continues as managing director.

In general session speeches, Mr. Crain and Mr. Patten stressed the growing importance of the association to the construction industry; emphasized the need of continuing the fight against force account expenditures by North and South Carolina; touched on the association's work in keeping local wage patterns in adjustment and announced that the branch's membership had increased during the year by 64 general contractors and 85 associates.

Effects of emergency controls on the construction industry and forecasts of its immediate future were outlined in speeches by national A.G.C. officers Glen W. Maxon, Dayton, Ohio, president; A. S. Horner, Denver, vice president; and H. E. Foreman, Washington, D. C., managing director.

Also in attendance were C. P. Street, McDevitt & Street Co., Charlotte, national A.G.C. vice presidential nominee for 1952, and William Muirhead, William Muirhead Construction Co., Durham, national A.G.C. secretary-treasurer.

Other national A.G.C. staff officials present were Welton A. Snow, manager of the Building Contractors' Division, who addressed the Building Division of the Carolinas Branch, and A. N. Carter, manager of the Highway Contractors' Division, who addressed the Highway and Heavy Divisions' meeting of the branch.

Among other speakers were the Hon. William B. Umstead, former United States Senator and now candidate for Governor of North Carolina, and the Hon. Edwin Gill, U. S. Collector of Internal Revenue, Greensboro, N. C.

Convention entertainment included songs by the 80-member Charlotte Boys Choir, a golf tournament, a banquet and dance, and a fashion show performed by New York models.

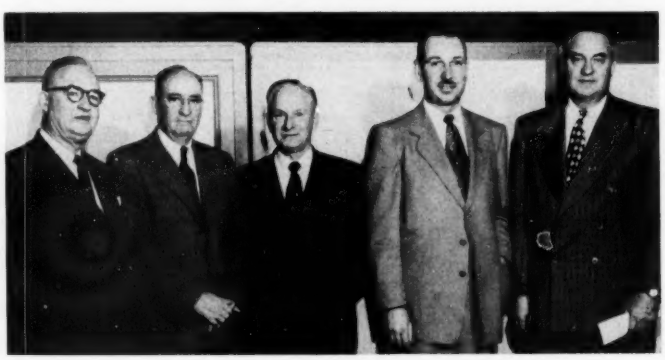
Directors for the year are: R. E. Fulmer, General Construction Co., Columbia, S. C.; W. L. G. Mackenzie, Fiske-Carter Construction Co., Spartanburg, S. C.; H. M. Mims, J. F. Cleckley & Co., Orangeburg, S. C.; G. E. Moore, G. E. Moore Co., Inc., Greenwood, S. C.; A. J. Timberlake, G. W. Kane, Greensboro, N. C.; E. B. Towles, Towles-Cline Construction Co., Wilmington, N. C.; C. N. Whilden, Blythe Brothers Co., Charlotte, N. C.; and Beaumert Whitton, Southeastern Construction Co., Charlotte.

Shown above are most of the new officers of the Carolinas Branch. Left to right, seated are: Vice President Cowper, President Ballenger, Jr., and Treasurer Goode. Standing, left to right, are: Managing Director Patten and Directors Timberlake, Crain (retiring president), Moore, King (retired), Mackenzie, and Whitton.

Western Chapters Meet

The construction situation was reviewed by Western A.G.C. chapter officials November 5 in San Francisco. On hand to address representatives from 11 states was J. D. Marshall, assistant managing director of the national association, who outlined current labor relations problems and discussed the operation of the recently issued Ceiling Price Regulation 93 which controls prices in the construction industry.

Below, left to right, are: Mr. Marshall; A.G.C. Vice President A. S. Horner, Denver; J. A. Thompson, Inglewood, Calif.; Chairman John Sellen, Seattle; and Ellis W. Barker, Salt Lake City.



Controls Outlined at Penna. Builders' Meet

• Governor Fine Talks on Taxes; A. E. Upton Elected President

» THE 13TH ANNUAL convention of the Pennsylvania Builders Chapter, A.G.C., drew 600 delegates to Harrisburg to attend a variety of functions programmed.

During the morning session of the Oct. 19 meeting, 1952 officers were elected. A. E. Upton, Upton-Lang Co., Erie, was chosen president. New vice president for the year is Stanford C. Seiple, Sunbury. R. S. Noonan, R. S. Noonan, Inc., York, was elected secretary-treasurer. George M. Schmeltzer continues as executive director.

Snow Describes Controls

Welton A. Snow, national A.G.C. Building Division manager, Washington, outlined the relationship of controlled materials plan regulations to construction order M-4A, and described the functions of each. He also discussed the functions of recent A.G.C. joint cooperative committee meetings with the Producer's Council and the American Institute of Architects.

Current developments in connection with wage stabilization, price controls, and settlements of jurisdictional disputes were outlined by A.G.C. Assistant Managing Director James D. Marshall, Washington.

Governor Among Speakers

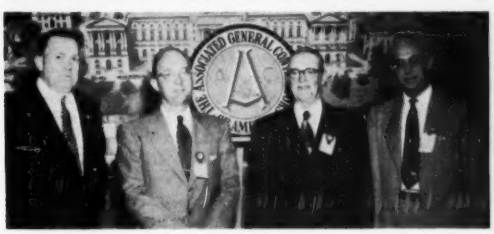
Pennsylvania's tax problems and plans were discussed by Governor John S. Fine, who said state projects were being pushed as fast as federal allocations of materials permitted.

Other speakers were T. R. Allen, president of the Lehigh Structural Steel Co., Allentown, who emphasized the businessman's responsibility to contribute to his community's charitable and educational enterprises; and J. D. Carpenter, president, Pennsylvania Society of Professional Engineers, Harrisburg, whose talk was titled, "Cooperation Pays Dividends."

Having won the H. B. Alexander Accident Prevention Trophy three times in the last five years, and consecutively in the last two years, the R. S. Noonan Construction Co., York, was given permanent possession of the large silver cup. H. B. Alexander, H. B. Alexander & Son, Inc., Harrisburg, chairman of the national A.G.C. Accident Prevention Committee, announced that his firm would contribute another cup for presentation next year to the chapter member having the lowest accident rate.

Board of Governors

Members of the chapter's board of governors for the next year are: R. D. Cremer, A. E. Upton, R. S. Noonan, H. B. Alexander, C. R. Austin, F. H. Berkebile, R. S. Johnson, B. H. Kline, L. V. Lacy, E. C. Machin, S. G. Mastriani, J. H. Orr, R. M. Ritter, S. C. Seiple, M. E. Stoudt, A. C. Warner and P. E. White.



Pennsylvania Builders Chapter officials in picture on the left are, left to right: George M. Schmeltzer, executive director; R. D. Cremer, 1951 president; A. E. Upton, 1952 president; and S. C. Seiple, 1952 vice president. In the picture on the right, R. S. Noonan receives the H. B. Alexander Accident Prevention Trophy from J. D. Marshall. Left to right are: Governor Fine, Mr. Cremer, Mr. Noonan, Mr. Marshall, and H. B. Alexander.

Chapter Officers Elected

Several chapters and branches of The Associated General Contractors of America have elected 1952 officers at recent meetings:

Lake Charles Chapter has elected the following new officers, all of whom are residents of Lake Charles, La.: president, Hudson C. East; vice president, Bob Bartley; secretary, Joe T. Miller; and treasurer, R. E. Managan.

* * *

Northeast Louisiana Contractors' Association, Inc., elected new officers at a meeting held earlier this year. New president is Raymond Masling, Frank Masling & Son, Monroe; vice president, E. H. Eiland, head of the firm which bears his name, Tallulah; and secretary-treasurer, G. O. Phillips, Ford, Bacon & Davis Construction Corp., Monroe. O. W. Brown, Monroe, continues as executive secretary.

* * *

Kansas Chapter, Builders Division, elected William H. Douglas, Douglas Construction Co., Topeka, to succeed Martin Dondlinger, Dondlinger & Sons Construction Co., Wichita.

Other newly elected officers who will take office with Mr. Douglas in January are: vice president, Frank E. Blaser, Frank E. Blaser Building Co., Wichita; and treasurer, Cecil Hunter, O. D. Milligan Construction Co., Manhattan.

The 1952 board of directors will be composed of Mr. Blaser; E. J. Mitchell, Mitchell Construction Co., Springfield; Val Borden, Val Borden Construction Co., Salina; N. F. English, English Construction Co., Hutchinson; Mr. Hunter; and Carl Noland, Noland Construction Co., Dodge City.

Kenneth R. Lewis remains as manager and executive secretary of the chapter. Installation of the new officers will take place during the chapter's annual meeting to be held in Salina in January.

* * *

East Texas Chapter recently elected Tom Wilmoth, Wilmoth Construction Co., Longview, as president. J. A. Sharrock, J. A. Sharrock & Sons Construction Co., Marshall, was elected vice president, and Raymond Cupp, M. Clint Brown Co., Longview, was re-elected secretary-treasurer.

"I got started right...

"Early in my experience, I learned how important the selection of a surety could be . . .

"It was a heavy job we were after . . . one of our first big ones . . . located outside our usual working territory. We were in good shape for it, but fairly green and practically unknown beyond the county limits. A surety company with less foresight and good judgment might have backed away . . .

". . . *but the Ætna's bond men had a refreshingly broad knowledge of the problems of our business—plus an uncanny talent for getting all the facts.*

"They wrote the bond. We got the job, too . . . and the prestige of the Ætna name didn't exactly hurt us any with the awarding authorities.

"Through the years, we've had many reasons to be grateful for the promptness, experience, and all 'round reliability of the Ætna Casualty and Surety Company—and they've never given *us* reason to doubt the wisdom of our choice."

Coast to coast . . . you can count on
The Ætna Casualty and Surety Company
for prompt, efficient contract bond service.

"No Job too Big . . . No Job too Small"

ÆTNA

ÆTNA CASUALTY AND SURETY COMPANY

The Ætna Life Affiliated Companies write practically every form of insurance and bonding protection

LIFE AND CASUALTY
Ætna Life Insurance Company
Ætna Casualty and Surety Company

FIRE AND MARINE
Automobile Insurance Company
Standard Fire Insurance Company

Hartford 15, Connecticut

Texas A.G.C. Council Meets

Some 90 executives attending the Fall meeting of the Texas A.G.C. Executives Council last month in Houston, heard National A.G.C. President G. W. Maxon, Dayton, give a forecast of the over-all construction outlook for 1952, and H. E. Foreman, Washington, managing director of the association, describe the operation of the new Ceiling Price Regulation 93, which was tailored for the construction industry.

Mr. Foreman stated that contractors need not file anything, but they must keep records of all their bids. As for bidding procedures, current prices of all materials may be quoted, he said.

He urged contractors to get desired interpretations of the price order through local and national A.G.C. offices. It is hoped that uniform rulings may be obtained by channeling interpretations in this manner.

Regarding the controlled materials plan, he predicted that the current quarter would reveal the necessity for changes which would improve the lot of the construction industry.

During the Council's meeting, Fred S. Oldt, Dallas, was elected 1952 chairman, and F. W. Heldenfels, Corpus Christi, was elected vice chairman. R. M. Dixon, Dallas, will succeed Loy W. Duddlesten, Houston, as secretary.

Election of H. C. Turner, Jr., president of Turner Construction Co. and chairman of the Building Division, A.G.C., to the board of directors of the Commerce and Industry Association of New York was announced last month.

Obituary

Olof Nelson, 84, president of the Olof Nelson Construction Co., Logan, Utah, and a charter member of the Intermountain Branch, A.G.C., died Oct. 16, of an internal hemorrhage.

Mr. Nelson came to this country in 1885 from Sweden, and in 1890 settled in Logan where he had resided since. He continued his vocation as a builder of brick homes, and 25 years ago became a general contractor specializing in building and highway projects.

He was a member of the Logan Chamber of Commerce, and a charter member of the Logan Rotary Club, of which he was president in 1933.

Surviving him are three sons and four daughters; 19 grandchildren and 15 great-grandchildren.

Wayne D. Tiner, 49, president of the H. B. Zachry Co., San Antonio, and vice president of the Texas Highway Branch, A.G.C., was killed instantly in an automobile accident Oct. 7, which also killed his wife and Mr. and Mrs. Arthur Knickerbocker, and seriously injured Susan Lane Tiner and Nancy Knickerbocker, daughters of the two couples.

Mr. Tiner, who lived in San Antonio, joined the Zachry organization in 1931, and became president of the firm in 1945. In 1923 he was the honor graduate in civil engineering at Texas A & M College.

He is survived by six sisters, his daughter Susan, and a son, Wayne D. Tiner, San Antonio, who also is employed by the Zachry organization.

Arthur Knickerbocker, 54, was estimating engineer of the H. B. Zachry firm's pipeline division. Following his graduation from Texas A & M College where he was quarterback of the famous teams of 1919 and 1920, he was active in the construction industry in Texas for many years. During World War II he served as Adjutant General of Texas.

Browning to Assist Carroll

A former PT boat commander in the Pacific theater, Robert F. Browning, has been appointed to assist C. J. Carroll, executive secretary of the Michigan Road Builders Association, A.G.C.

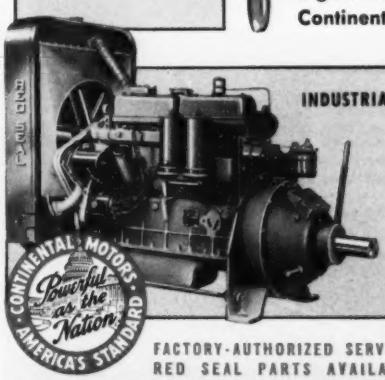
Mr. Browning, who holds an A.B. degree from the University of Notre Dame, and an LL.B. degree from the University of Michigan, is a member of the Michigan Bar, and for the past three years has been associated with the Central Trust Co., Lansing.

His principal duties will be preparation of information on government regulations.

Mr. Browning is a member of the University of Michigan Club, the Knights of Columbus, and the Toastmasters International of Lansing.

THERE'S A CONTINENTAL RED SEAL MODEL ENGINEERED TO THE EXACT NEEDS OF VIRTUALLY EVERY INDUSTRIAL, CONSTRUCTION, TRANSPORTATION AND FARM JOB.

Fuel economy takes on new importance in these days of rising costs—and Continental Motors' 50 years of aggressive engineering has produced an expert matching of the factors on which economy depends. The more equipment you operate, the more you'll save by standardizing on makes that feature famous Continental Red Seal power.



INDUSTRIAL MODEL R-600 . . .

Open Power Unit. Six cylinder, overhead valve design. 65 to 110 shaft horsepower for continuous duty—75 to 140 shaft horsepower for intermittent duty. This Continental Red Seal model also available as closed power unit with sturdy sheet metal house with detachable sides.

FACTORY-AUTHORIZED SERVICE AND GENUINE CONTINENTAL RED SEAL PARTS AVAILABLE FROM COAST TO COAST

Continental Motors Corporation
MUSKEGON, MICHIGAN

"Low level bidding"

gets the job—maintains profit

Successful drainage bids are ones that get the job and *retain adequate profit.* That's why so many experienced contractors are practicing "low level bidding" with Armco Corrugated Metal Pipe. They have found the cost of installing short, sectional pipe requires higher bids to maintain profits.

Figured on an *installed* basis Armco Pipe saves money in many ways. Flexible, corrugated metal design assures ample strength without excess weight. This means low handling and hauling costs. Job costs are low because unskilled labor quickly and easily makes the installation. There is no breakage, no curing, no waste, no delay.

Individual sections of standard Armco Corrugated Pipe and PIPE-ARCH are supplied in any length that can be hauled and handled. No large and expensive equipment is required for installation. A few men with a rope sling or a small A-frame can handle the largest structure. Connections are made with simple band couplers. Where end finishing is needed, prefabricated Armco End Sections are simple to install.

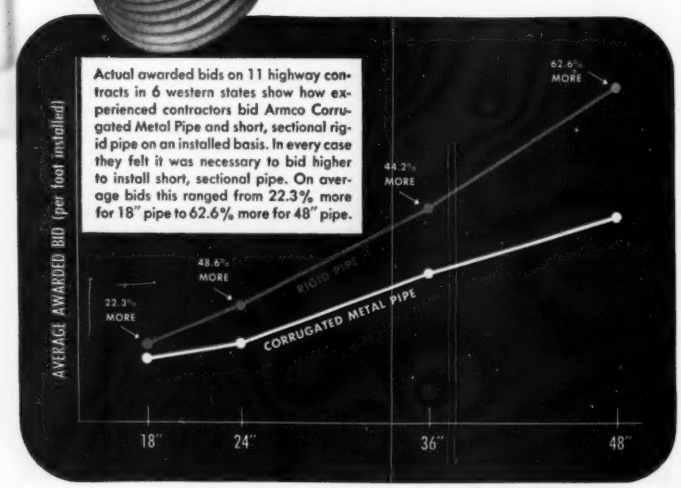
Use Armco Drainage Products on highways, railways, airports and wherever else you need economical, easy-to-install drainage structures. Armco Drainage & Metal Products, Inc., 1891 Curtis Street, Middletown, Ohio.

Export: The Armco International Corporation

ARMCO

CORRUGATED

METAL PIPE


Actual awarded bids on 11 highway contracts in 6 western states show how experienced contractors bid Armco Corrugated Metal Pipe and short, sectional rigid pipe on an installed basis. In every case they felt it was necessary to bid higher to install short, sectional pipe. On average bids this ranged from 22.3% more for 18" pipe to 62.6% more for 48" pipe.
AVERAGE AWARDED BID (per foot installed)
62.6% MORE
44.2% MORE
48.6% MORE
22.3% MORE
RIGID PIPE
CORRUGATED METAL PIPE
18"
24"
36"
48"

CHAPTERS • BRANCHES

A.G.C. Branch and Chapter Meetings

A monthly cumulative list of annual meetings scheduled by chapters and branches of The Associated General Contractors of America, as reported to THE CONSTRUCTOR:

Dec. 10, 1951. SPOKANE CHAPTER. Spokane. Hotel Spokane.

Dec. 11, 1951. SEATTLE CHAPTER. Seattle. Construction Center.

Dec. 11, 1951. SAN ANTONIO CHAPTER. San Antonio. 227 Transit Tower.

Dec. 11-12, 1951. MASTER BUILDERS OF IOWA. Des Moines. Hotel Savery.

Dec. 13, 1951. MEMPHIS CHAPTER. Memphis. King Cotton Hotel.

Dec. 13, 1951. A.G.C. of NEW HAMPSHIRE. Concord. Eagle Hotel.

Dec. 14, 1951. SOUTH TEXAS CHAPTER. Corpus Christi. Plaza Hotel.

Dec. 15, 1951. NEVADA CHAPTER. Reno. Chapter Office.

Dec. 19, 1951. A.G.C. OF MASSACHUSETTS. Boston. Hotel Touraine.

Jan. 1952. SOUTH FLORIDA CHAPTER. Miami. Probably at Columbus Hotel.

Jan. 8, 1952. MASTER BUILDERS ASSOC., INC. District of Columbia. Mayflower Hotel.

Jan. 8, 1952. PHILADELPHIA CHAPTER. Philadelphia. Barclay Hotel.

Jan. 8-9, 1952. PIPE LINE CONTRACTORS' ASSOC. Houston. Shamrock Hotel.

Jan. 8-9-10, 1952. A.G.C. OF IOWA. Des Moines. Hotel Savery.

Jan. 10, 1952. SAN DIEGO CHAPTER. San Diego. El Cortez Hotel.

Jan. 10-11, 1952. KANSAS CONTRACTORS ASSOC. Kansas City. President Hotel.

Jan. 10-11-12, 1952. A.G.C. OF MINNESOTA. St. Paul. St. Paul Hotel.

Jan. 11-12, 1952. MONTANA CONTRACTORS' ASSOC., INC. Missoula. Florence Hotel.

Jan. 11-12, 1952. MONTANA BUILDING CHAPTER. Missoula. Florence Hotel.

Jan. 11-12, 1952. INTERMOUNTAIN BRANCH. Salt Lake City. Hotel Utah.

Jan. 12, 1952. OKLAHOMA BUILDERS CHAPTER. Oklahoma. Skirvin Hotel.

Jan. 13-14, 1952. NEBRASKA BUILDING CHAPTER. Lincoln. Hotel Cornhusker.

Jan. 14, 1952. Portland Chapter. Portland. Chapter quarters.
Jan. 14-15, 1952. Virginia Branch. Richmond. Hotel John Marshall.
Jan. 16, 1952. Detroit Chapter. Detroit. Detroit Athletic Club.
Jan. 16, 1952. Louisville Chapter. Louisville. (Not selected.)
Jan. 18, 1952. Alabama Branch. Birmingham. Tutwiler Hotel.
Jan. 18, 1952. Milwaukee Chapter. Milwaukee. Schroeder Hotel.
Jan. 19, 1952. A.G.C. of West Virginia. Charleston. Daniel Boone Hotel.
Jan. 22-23, 1952. A.G.C. of Missouri. St. Louis. Statler Hotel.
Jan. 24, 1952. Idaho Branch. Boise. Hotel Boise.
Jan. 25, 1952. Central California Chapter. San Francisco. St. Francis Hotel.
Jan. 25-26, 1952. Colorado Contractors Assoc., Inc. Denver. Shirley-Savoy Hotel.
Jan. 26. Mississippi Valley Flood Control Branch. Memphis. Hotel Peabody.
Feb. 1, 1952. Constructors Assoc. of Western Penna. Pittsburgh. Hotel William Penn.
Feb. 9, 1952. Kentucky Highway Division. Louisville. Kentucky Hotel.
Feb. 28, 1952. Rhode Island Chapter. Providence. (Not selected.)
Mar. 1952. Cincinnati Chapter. Cincinnati. Cincinnati Club.
Mar. 12, 1952. Houston Chapter. Houston. Ben Milam Hotel.
Apr. 2-3, 1952. Michigan Road Builders Assoc. Detroit. Hotel Statler.

Tentative Dates

Jan. 7, 1952. Assoc. of Oklahoma General Contractors. Oklahoma City. Huckins Hotel.
Jan. 8, 1952. Indiana General Contractors' Assoc. Indianapolis. (Not selected.)
Jan. 10, 1952. Baltimore Builders Chapter. Baltimore. Park Plaza Hotel.
Jan. 25, 1952. Southern California Chapter. Los Angeles. Biltmore Hotel.
Feb. 1952. Cleveland Chapter. Cleveland. (Not selected.)
Mar. 1952. Metropolitan Builders Assoc. of New York City. New York City. University Club.
June 17, 1952. Texas Highway Branch. Austin. Austin Hotel.

Va. Branch Appoints O'Grady

The Virginia Branch's newly chosen full-time executive secretary comes to his job well equipped.

Herbert W. O'Grady, architect and engineer, graduated from Virginia Polytechnic Institute and then served four years as an officer in the Corps of Engineers in which he now holds a reserve commission as a major.

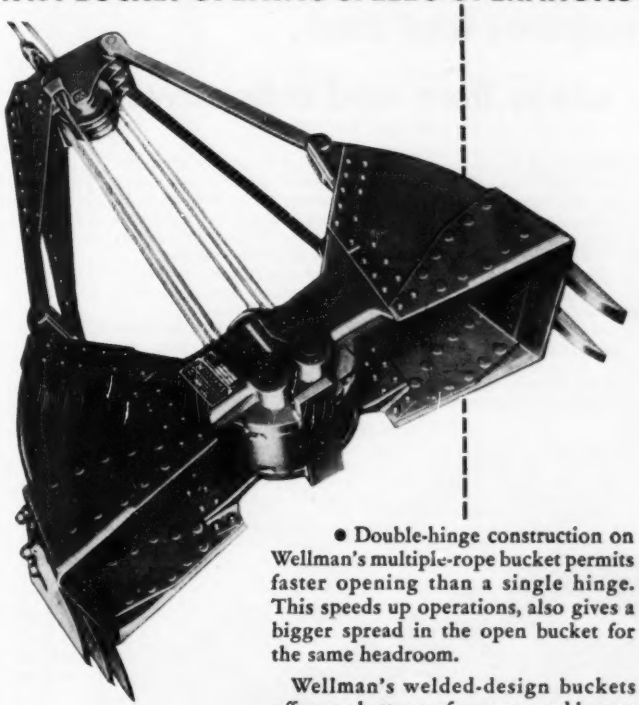
After the war, Mr. O'Grady was engineer in charge of construction for Doyle & Russell, A.G.C., at the Norfolk Naval Operating Base.

He was also employed by the Wise Construction Co., A.G.C., on projects located in various parts of Virginia.

Headquarters for the branch are now located in the Hotel King Carter, Richmond.

WELLMAN *Williams Type*

FAST BUCKET OPENING SPEEDS OPERATIONS



• Double-hinge construction on Wellman's multiple-rope bucket permits faster opening than a single hinge. This speeds up operations, also gives a bigger spread in the open bucket for the same headroom.

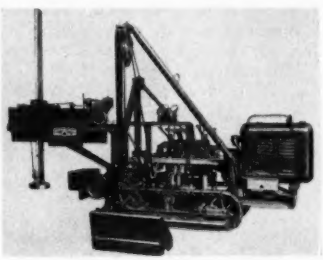
Wellman's welded-design buckets offer you better performance and longer service. In all types and sizes you'll do better with Wellman!

Want Facts?
Write for free descriptive bulletins.
CLAMSHELL • DRAGLINE • CUSTOM-BUILT BUCKETS • STONE AND WOOD GRABS

THE WELLMAN ENGINEERING COMPANY
7000 Central Avenue
Cleveland 4, Ohio

Rubberized Paint—*United States Gypsum Co., Chicago 6.* "Texolite Duraval" paint contains controlled formula, combining synthetic latex ingredient with special resin chemicals to produce durable velvet-like finish. It requires no primers or sealers over most surfaces. It dries quickly and is easy to clean, manufacturer claims. Paint is available in 12 standard and 5 custom ready-mixed colors.

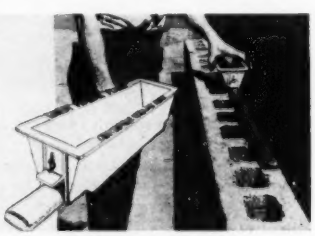
Tamper-Backfiller-Crane — *Cleveland Trencher Co., 20100 St. Clair Ave., Cleveland 17.* One-man-operated Model 80 tamps, backfills, lays pipe, unloads and handles pipe, sheathing, etc. and does light crane work. It is mounted on crawler having 24 travel speeds from 1′ per minute up to 2⅛ m.p.h. It tamps while traveling either along side of trench or straddling it. Tamper delivers 380 f.p. blow 45 times a minute. Backfiller is dragline type with telescopic boom. It backfills from either side of trench. As crane, machine will lift weight of 6,000 lbs. located 3′ from edge of crawler track, without counterweights. Standard boom sections are extendable to 15′.



Cleveland Model 80

Material-Hoisting Tower—*Wilson-Albrecht Co., 3565 Wooddale Ave., St. Louis Park, Minn.* Tower assembles with standard "Waco" sectional scaffolding and is available as double-well or single-well unit. It features remote or pre-set platform control. Double-well tower is designed for simultaneous loading and unloading at top or bottom of alternate wells. "Slow-up" brake on power mechanism governs platform descending speed and safety slack brake sets automatically in case of failure in hoisting rig. Powered by interchangeable gasoline or electric power units with hoisting speeds of 100′ and 110′ per minute, respectively, each tower has capacity of 1,000 lbs.

Mortar-Laying Tool—*Kakest Co., Curwensville, Pa.* "Mortar Plane" is 1½-lb. all-aluminum tool for applying mortar on concrete or cinder block. Gates at base permit various thicknesses of mortar to flow evenly. Guide assures fast straight travel up to 6 blocks with one filling.



Kakest "Mortar Plane"

Construction with Permalite lightweight aggregates

requires less steel...

saves time and manpower

● Much of the saving in lightweight building design can be in structural steel. How? By using Permalite aggregates in floors, walls and roof.

Furthermore, concrete and plaster made with Permalite instead of sand are easy to handle – *quick to apply.* Rigid completion dates can be set and met!

Permalite aggregate in concrete provides an efficient *insulating* floor and roof fill material. In plaster it permits fireproofing structural steel without costly imbedding in heavy concrete. On walls and ceilings it assures lighter, more resilient base coats.

Get the full story on why construction men are using Permalite for *all types of construction*–industrial buildings, schools, hospitals, defense housing and military buildings.

TYPICAL USES:

Concrete Aggregate: *Roofs and Floors* – over lightweight decking. *Exterior Walls* – thin, light; easily formed and erected. Can be monolithically poured or precast into blocks, slabs and panels – can be sawed or nailed!

Plaster Aggregate: *Fireproofing* – speedily applied over structural steel. *Interior Walls* – replaces sand in plaster – at less than half the weight.

Permalite

THE LEADING PERLITE AGGREGATE

A Building Product of Great Lakes Carbon Corporation and its exclusive Permalite Licensees

Great Lakes Carbon Corporation, Dept. 151C
18 East 48th Street, New York 17, N. Y.

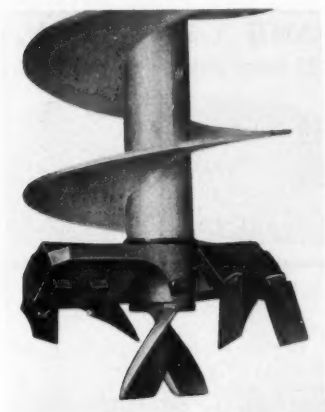
☐ Please send full information on Permalite lightweight construction. ☐ Please have representative call.

NAME_____

ADDRESS_____

CITY_____ STATE_____

Earth Drill—*Petersen Engineering Co., Santa Clara, Calif.* "Pengo" cutting head for welding onto any continuous helix type earth drill or post-hole auger is of twin helix design. It is welded directly to bottom of auger. Cutting teeth are arranged in same staggered pattern as in regular heavy-duty twin helix "Pengo" earth auger. All cutting head parts are interchangeable with standard earth auger of same size, including shank plates, replaceable points and fishtail pilot bits. Cutting heads are available in 8 sizes from 10″ to 24″ in diameter.



"Pengo" earth drill cutting head

Door-Hanging Templet — *Porter-Cable Machine Co., Syracuse 8, N. Y.* Hinge butt templet, Model 5006, is designed for use with Porter-Cable's "Guild" router. It can also be used with "Speedmatic" router and is adaptable for use with other makes of routers. It is adjustable for 2½″ to 5½″ hinges. Settings are made directly from measurement tables on templet. It is adjustable for 2 or 3 butts and is used for both doors and jambs. After it is adjusted for size of door and size of hinge, templet is locked in position. Templet weighs less than 4 lbs., is 1¾″ high, 4″ wide and 63″ long when extended.

Saw Coolant—*S. C. Johnson & Son, Inc., Racine, Wis.* Wax coolant for use with power hack saws and routers is non-flammable aqueous wax emulsion. It reduces wear of router bits when used with radial arm routers and eliminates much of welding and burring on routed edges, manufacturer states.

Heltzel
BUILDS IT BETTER

GEARED TO YOUR PRODUCTION NEEDS

Engineered FOR THE JOB

STATIONARY BATCHING PLANTS

PORTABLE BULK CEMENT PLANTS

PORTABLE AGGREGATE PLANTS

STEEL FORMS

CURB & GUTTER AIRPORT-HIGHWAY

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STORAGE BINS

BELT CONVEYORS

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● Heltzel-engineered equipment provides that element of efficiency so important when man hours count highly. Each product in the Heltzel line is backed by 40 years experience in the concrete industry. Contractors and concrete producers know that Heltzel builds quality, high performance equipment. It stands the test of time and rugged operating conditions. Some of the Heltzel line of products are pictured here.

Specific information on any Heltzel equipment may be had by writing to our Warren office or contacting your nearest Heltzel distributor.

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WARREN, OHIO

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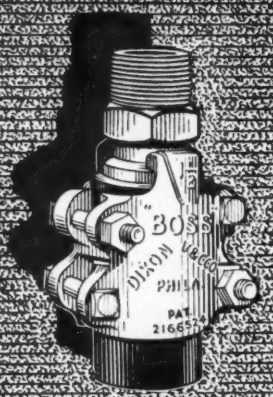
in Name and Service



*"BOSS"
Male Coupling
Style MX-16

Its very appearance reflects the unequalled power and efficiency of this original Dixon product. Designed to fit straight-end hose, and furnished with super-strong "Boss" Offset and Interlocking Clamps.

Stocked by Manufacturers and Jobbers of Mechanical Rubber Goods.

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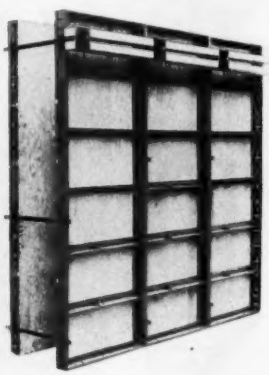
NEW EQUIPMENT • MATERIALS

Concrete Form—*Irvington Form & Tank Corp., Compo Division, 20 Vesey St., New York 7.* "Atlas Compo" form consists of light-weight steel frame with plywood face. Frame is reinforced with steel angles. Plywood panels are fastened to steel frame with special rivets for easy removal and reversal of panels for additional use. Erection can be started at any point and single panels can be removed without disturbing balance of forms. Forms can be used on wall or slabs and are supplied in all standard sizes.



"Atlas Compo" form

Concrete-Curing Compound—*Aluminum Industries, Inc., Cincinnati 25.* Fast-drying, spray-on concrete-curing compound seals 200 sq. ft. of horizontal surface per gal., according to manufacturer. Known as "Permite W-95," it is of liquid consistency and is applied by spraying immediately after free water has disappeared. It has no deleterious reaction and causes no discoloration or stain, manufacturer states.

Winch—*Hyster Co., 2902 N. E. Clackamas St., Portland 8, Oreg.* D4 "HySpeed" winch can be mounted on either seat- or fender tank-type Caterpillar D4 tractors. It will perform lifting, pulling, crane work, light pile-driving, ground skidding logs.

PRESTRESSED CONCRETE

A rational method of construction for elevated express highways, heavy underpasses, underground garages, containers and ducts carrying liquids.

L. COFF, *Consulting Engineer*, 198 Broadway, New York 7, N. Y., Cortland 7-2753

Atlas

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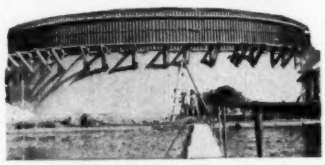
Beat High Labor Costs

STEEL Forms—good for reuse again and again without repair—cut material costs far below wood. SPEED forms cut job time—constructors report savings of ⅓ to ½ on all types of construction. Glad to give you layouts, cost studies and complete facts—No obligation. Just send prints of the job to Dept. CR and ask a representative to call.

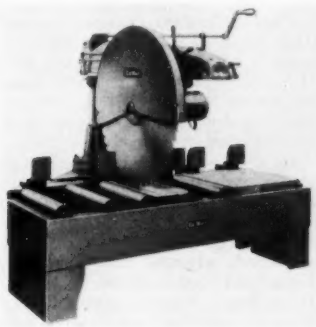
IRVINGTON FORM AND TANK CORP.
20 Vesey Street, New York, N. Y.



Paver—*Worthington Pump and Machinery Corp., Construction Equipment Division, Dunellen, N. J.* Worthington-Ransome 34E dual drum paver features high-speed operating cycles. Boom bucket travel rate is 256' per minute. Power loader skip requires 6½ seconds to travel from ground to discharge position of 56° low slope. Transfer from first to second mixing compartment requires about 6½ seconds, depending on consistency of concrete. Discharge into boom bucket takes 6½ seconds. Boom swing is full 171°. Paver has hydraulic bucket which permits complete control of rate of concrete discharge. Other features are increased braking area, more efficient boom raising and lowering machinery, re-designed drum and new crawlers and frames.

Worthington-Ransome 34E dual drum paver

Saw—*DeWalt, Inc., Lancaster, Pa.* Timber cutter cuts 12x18 timbers in cross-cut position and 12x12 timbers in 45° miter position. Powered by 10 h.p. direct-drive motor, it has rugged arm and column, operating levers located within easy reach of operator and segmental back guide that permits rapid change-over from cross-cutting to mitering. Standard cutting blade is 36" diameter operating at 1,800 r.p.m.



DeWalt timber cutter

Protective Coating—*Flash Stone Co., 30 E. Rittenhouse St., Philadelphia 44.* "Tarlac" coating consists of coal tar pitch which has been broken down into molecules and combined with water and stabilizing emulsifying agent to form permanent suspension that can be brushed or sprayed. It is said to retain protective and adhesive qualities of coal tar pitch, not to crack at low temperature or run at high temperature. It is recommended as protective coating for concrete structures, floors, masonry, metals exposed to corrosive elements, mastic floors or other black-top surfaces and wood exposed to elements. It dries to flat black film, is insoluble in water, oil or gasoline, is thinned with water and covers up to 300 sq. ft. per gal.

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UNANIMOUS VERDICT: "Great!"

Employees join employers in praising Employers Mutual Group Insurance

How do business and industrial executives feel about the value of protecting their employees with Employers Mutuals "After-Hours" Group Insurance? Expressions like these, from our policyholders, are typical:

"Soundest investment we've made" . . . *"Fosters better employee relations and company loyalty . . . lessens employees' worries"* . . . *"Helps increase production—lowers costs"* . . . *"Wonderful claim service!"*

And what is the employee reaction? Listen: *"Now we're protected* off *the job as well as* on *the job"* . . . *"The boss treats us as individuals!"* . . . *"Claims get fast, fair handling"* . . . *"It's great!"*

Our policyholder-owners and their people get the same superlative "performance in action" from their Employers Mutuals "team" on Group Health and Accident Insurance as on Workmen's Compensation and other coverage. Cost of this "After-Hours" protection is modest . . . it is *negligible* compared to its many benefits to you and those who work with you!

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EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN

EMPLOYERS MUTUAL FIRE INSURANCE CO.

Home Office: Wausau, Wis. • Offices in principal cities Consult your telephone directory

EMPLOYERS MUTUALS of WAUSAU

Pumps—*Worthington Pump and Machinery Corp., Harrison, N. J.* Bulletin W-317-B12 describes "Free-flo" pumps for sump, sewage and drainage service. Bulletin includes cross-section drawing, graph of coverage for 60-cycle motor speeds, dimensions in inches and data on flanges.

Vermiculite Plaster—*Vermiculite Institute, 208 S. LaSalle St., Chicago 4.* Enlarged edition of *Vermiculite Plaster Fireproofing* is 18-page illustrated booklet presenting summary of fire tests on construction assemblies protected by vermiculite plaster, with new drawings of typical fireproofing details.

Diesel Engines—*Detroit Diesel Engine Division, General Motors Corp., Detroit 28.* Booklet, *What Do GM Diesels Do?*, is written in rhyme and is illustrated by drawings of locomotives, buses, boats, power shovels, saw mills and other pieces of equipment powered by diesel engines.

Steel—*Joseph T. Ryerson & Son, Inc., Box 300, Cincinnati 14.* Illustrated booklet presents new Ryerson steel plant in Cincinnati, including personnel, stocks, cutting and shipping facilities and brief history of operations in Cincinnati.

Forming System—*Symons Clamp & Mfg. Co., 4265 W. Diversey Ave., Chicago 39.* Bulletin describes and illustrates in condensed form Symons forming system for concrete wall construction. System and what it consists of are described, including panels, 2-way form tie, connecting bolt, tightening wedge, wale tie and wale plate, corners and fillers. Assembly details and standard sizes are explained. Detailed information is given on wood, plywood, plywood-with-magnesium frames and wood forms with steel ribs. In addition, Symons service is explained, including rental with purchase option, availability of hardware and fittings and other supplies and engineering service. Column clamps and safety shores are described and illustrated.

Hardfacing—*American Manganese Steel Division, American Brake Shoe Co., Chicago Heights, Ill.* Rod selection guide (Bulletin SG) for "Amsco" hardfacing products shows parts that can and should be hardfaced for longer life. Guide gives name of part, recommended rod, sizes and method of application. It also describes rods in "Amsco" line.

Excavator—*Koehring Co., 3026 W. Concordia Ave., Milwaukee 16.* Catalog presents latest advancements made on Model 304 ¾-yd. excavator and its attachments. Story of design, construction, work capacity and application of machine is told in illustrations and drawings. Detailed line diagrams illustrate direct flow of power through 3-shaft upper machinery arrangement to vertical shafting of excavator.

Material Elevator—*American Hoist and Derrick Co., St. Paul 1.* New features of portable material elevator are illustrated and described in Catalog 250-E-1. Featured are new method of hooking platform or concrete bucket

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THE ONE-MAN SHORE
• Easy for one man to set and remove.
• Cuts shoring costs—no cutting, fitting or wedging.
• May be used over and over—floor to floor, or job to job.
Rooshors save in time and material . . . so naturally save money. They give instant adjustment in their range of three sizes: 8 ft. to 14 ft.; 7 ft. to 13 ft.; and 5 ft. to 9 ft.—higher stories are shored with Roos Extension Shores. Rooshors save every time you use them.
ROOS COLUMN CLAMPS
• Save Time
• Cut Column Forming Costs
Roos Column Clamps are so simple and foolproof to use (no "rights and lefts") that even inexperienced workers quickly develop efficiency. Roos Clamps automatically square the column forming.
Rooshors and Roos Column Clamps are available for rental from warehouse stocks in principal cities from coast to coast.
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BAKER-ROOS, INC.
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to re-designed traveling carriage and new tower erection device. Speeded-up assembly of elevator by using pins wherever practicable, new type tower section splices and new single unit tower head is explained.

Laminated Southern Pine—*Southern Pine Assn., New Orleans.* Standard specifications for design and fabrication of structural glued laminated southern pine cover such structures as arches, beams, trusses and columns. Complete tables of working stresses under both dry and wet conditions and architect's guide to specifications are included. Provisions include moisture content, slope of grain, sizes, grade, adhesives, etc.

Flooring—*The Tremco Manufacturing Co., 8701 Kinsman Rd., Cleveland.* Booklet on "Mulsomastic Flooring" discusses advantages of resilient asphalt mastic floors, shows installations over concrete, wood, brick and other surfaces. Illustrations show typical installations.

Batching Plant—*Willard Concrete Machinery Sales Co., 2906 Imperial Highway, Lynwood, Calif.* Portable batching plant is described and illustrated in new bulletin. Instructions are given for tearing down and erecting. Illustrations show plant working on various concrete jobs.

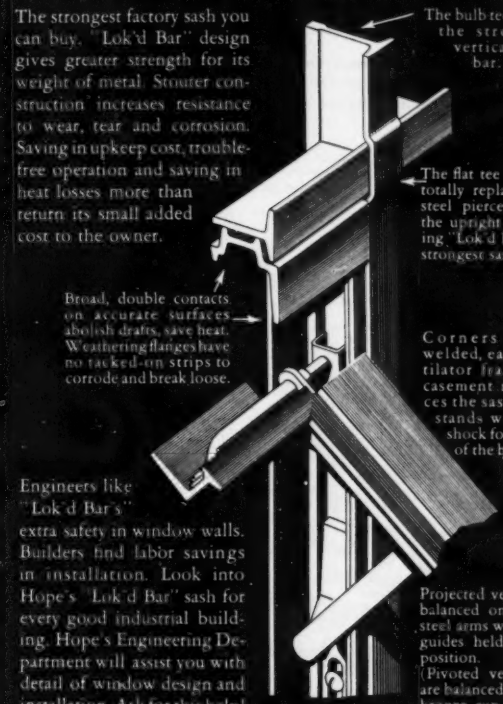
Asphalt Protective Coating—*American Bitumuls & Asphalt Co., 200 Bush St., San Francisco 4.* Booklet gives detailed application data and lists outstanding uses of "Laykold Fibrecoat," weatherproof mineral-armored asphalt. Its uses for protection of bituminous roofs and metal are listed and specifications, application data, approximate costs and detailed information on equipment used in applying product are given.

Protective Hats—*Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh 8.* Illustrated booklet, to be given with every new MSA "Skullgard," points out importance of adequate head protection by listing 8 representative examples where workers have escaped serious injury or death when struck by falling objects while wearing "Skullgards." Section of booklet is devoted to care of "Skullgard," and precautions which prolong life of protective hat are shown. Design features are discussed.

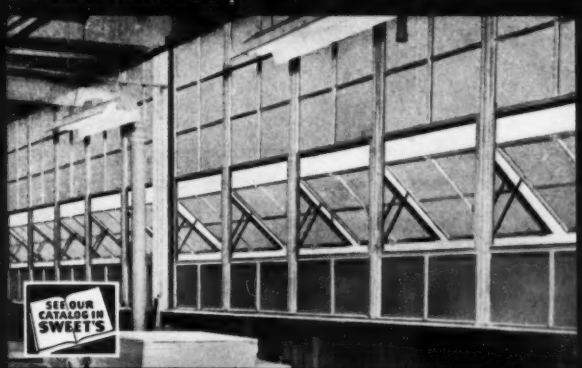
The Name HOPE'S *Guarantees*

Lok'd Bar FACTORY SASH

The strongest factory sash you can buy. "Lok'd Bar" design gives greater strength for its weight of metal. Stouter construction increases resistance to wear, tear and corrosion. Saving in upkeep cost, trouble-free operation and saving in heat losses more than return its small added cost to the owner.


The bulb tee makes the strongest vertical sash bar.
The flat tee muntin totally replaces the steel pierced from the upright — making "Lok'd Bar" the strongest sash joint.
Broad, double contacts on accurate surfaces abolish drafts, save heat. Weathering flanges have no tacked-on strips to corrode and break loose.
Corners solid-welded, each ventilator frame and casement reinforces the sash, withstands wind and shock for the life of the building.
Projected ventilator, balanced on strong steel arms with brass guides held in true position. (Pivoted ventilators are balanced on solid bronze cup pivots.)

Engineers like "Lok'd Bar's" extra safety in window walls. Builders find labor savings in installation. Look into Hope's "Lok'd Bar" sash for every good industrial building. Hope's Engineering Department will assist you with detail of window design and installation. Ask for this help!



"Lok'd Bar" means the world's finest factory sash. Ask for Catalog 103L

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

The Finest Buildings throughout the World are Fitted with Hope's Windows

George W. Hoskins has been appointed sales manager of HARNISCHFEGER CORP.'s Large Excavator Division. He replaces Paul H. Hunter, recently transferred to P&H's San Francisco branch.

J. R. Coffing has been elected vice president in charge of sales, advertising and general office administration of COFFING HOIST CO.

John E. Renner has been appointed general sales manager of LINCOLN ENGINEERING CO. L. L. Meikle has been elected president of Lincoln Engineering Co. of California, Lincoln's West Coast division.

DEWALT, INC., radial arm saw subsidiary of American Machinery and Foundry Co., has purchased the complete "Monarch" woodworking machinery line of American Saw Mill Machinery Co.

Victor A. Woodling has been appointed service development manager of CATERPILLAR TRACTOR CO. Robert H. Hawkins succeeds him as dealer publications supervisor.

Joseph T. Thayer, Jr., formerly supervisor of chain saw service for HENRY DISSTON & SONS, INC., has been named chief sales engineer for the entire company.

Martin E. Strand has been appointed production manager for WILSON-ALBRECHT CO.

Harry H. Fair of San Francisco has been elected chairman of the Board of Directors of CATERPILLAR TRACTOR CO., succeeding C. L. Best, who died September 22.

America Needs Steel
—and *YOU* can help!

America is sending out an urgent call for scrap! The greatly increased steel production necessary to meet today's emergency is requiring more scrap than it is getting—much more. Here's where you can play an important role. Look around your plant. Chances are, in some half-forgotten corner, there's a pile of idle, dust-covered steel scrap. Organize a salvage program . . . see that this vital material gets back to the mills. Take part in America's future—*get in the scrap!*

LACLEDE STEEL COMPANY
Producers of Steel for Industry and Construction
St. Louis, Mo.

Security Rides on Trucks

Mack Trucks, Inc., has published an 8-page booklet entitled *National Security Rides on Trucks.* Designed to meet the needs of educators, commentators, editors, group leaders, etc., by giving them a highlight summary of the importance of the trucking industry to the country's economy, it includes quotations from military and government officials as to the vital necessity of trucking, cites the results of special surveys into civilian defense and defense economy needs and gives examples of the growth of the trucking industry.

The booklet emphasizes a 3-point program: 1. High priority for the needs of our essential roads. 2. Abolition of obsolete and conflicting state road restrictions. 3. Full use of highway taxes for better highways.

Welded Bridge Program

The Lincoln Arc Welding Foundation is sponsoring a 1952 award program, "Welded Bridges for Steel Conservation." The program is open to all persons in the United States and offers 15 awards totaling $16,100. Awards will be given for the best bridge designs which show weight and cost savings over a comparable riveted bridge. Rules for the program are available from The James F. Lincoln Arc Welding Foundation, Cleveland 17, Ohio.

Manufacturers' addresses are listed on page 71

Aggregate (Light-weight)
Great Lakes Carbon Corp., Building Products Division

Air-Entraining Agents
A. C. Horn Co.

Asphalt Plants (Portable)
Barber-Greene Co.
Iowa Mfg. Co.
White Mfg. Co.

Axles (Truck)
Eaton Mfg. Co., Axle Division

Backfillers
Bucyrus-Erie Co.
Cleveland Trencher Co.
Harnischfeger Corp.
Parsons Co.

Batchers
Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
C. S. Johnson Co.

Bearings (Anti-Friction, Tapered Roller)
Timken Roller Bearing Co.

Bins
Blaw-Knox Division
Heltzel Steel Form & Iron Co.
Iowa Mfg. Co.
Irvington Form & Tank Corp.
C. S. Johnson Co.

Bits (Detachable Drill)
Ingersoll-Rand Co.
Timken Roller Bearing Co.

Blades (Grader, Maintainer, Snow Plow, Bulldozer, Scarifier)
Shunk Manufacturing Co.

Bridges
American Bridge Co.
Armco Drainage & Metal Products

Buckets (Clamshell & Dragline)
Blaw-Knox Division
Bucyrus-Erie Co.
Harnischfeger Corp.
C. S. Johnson Co.
Owen Bucket Co.
Wellman Engineering Co.

Buckets (Concrete)
Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
Jaeger Machine Co.
Owen Bucket Co.

Building Papers
Sisalkraft Co.

Buildings (Steel)
Allied Structural Steel Cos.
American Bridge Co.
Armco Drainage & Metal Products

Buildings (Steel)—Continued
International Steel Co.
Macomber, Inc.
Smooth Ceilings System
Truscon Steel Co.

Bulldozers
Bucyrus-Erie Co.
R. G. LeTourneau, Inc.

Car Pullers
Clyde Iron Works

Ceilings
Fenestra Building Products
Smooth Ceilings System

Cement (Common and Special)
Lehigh Portland Cement Co.
Lone Star Cement Corp.
Universal Atlas Cement Co.

Cement (White)
Trinity White, General Portland Cement Co.
Universal Atlas Cement Co.

Clamps (Hose)
Dixon Valve & Coupling Co.

Compressors
Allis-Chalmers Co.
Ingersoll-Rand Co.
Jaeger Machine Co.

Concrete Curing Material
A. C. Horn Co.
Sisalkraft Co.

Concrete Mixers, Pavers, Tampers
Chain Belt Co.
Construction Machinery Co.
Foote Co.
Jaeger Machine Co.
Knickerbocker Co.
Koehring Co.
Kwik-Mix Co.
T. L. Smith Co.
Worthington Pump & Machinery Corp.

Concrete Vibrators
Concrete Surfacing Machinery Co.
Electric Tamper & Equipment Co.
Ingersoll-Rand Co.
Vibro-Plus Products, Inc.
White Mfg. Co.

Conveying Machinery
Barber-Greene Co.
Chain Belt Co.
Iowa Mfg. Co.
Link-Belt Co.

Cranes
Austin-Western Co.
Bucyrus-Erie Co.
Cleveland Trencher Co.
Clyde Iron Works
Harnischfeger Corp.
Koehring Co.
R. G. LeTourneau, Inc.

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Tells you • HOW A WELLPOINT SYSTEM FUNCTIONS • HOW TO PLAN A WELLPOINT LAYOUT • HOW TO INSTALL YOUR WELLPOINT SYSTEM • HOW TO OPERATE IT EFFICIENTLY.

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Michigan Power Shovel Co.
Northwest Engineering Co.

Crushing Machinery
Allis-Chalmers Co.
Austin-Western Co.
Iowa Mfg. Co.

Culverts
Albert Pipe Supply Co.
Armco Drainage & Metal Products

Cutters (Abrasive)
Skilsaw, Inc.
Wodack Electric Tool Corp.

Decking (Roof Steel & Aluminum)
Fenestra Building Products
Macomber, Inc.

Derricks
Clyde Iron Works

Doors (Metal, Wood)
Ceco Steel Products Corp.
Fenestra Building Products
International Steel Co.
Kinnear Mfg. Co.
R. C. Mahon Co.
Truscon Steel Co.

Dredging Machinery
Bucyrus-Erie Co.
Harnischfeger Corp.
Northwest Engineering Co.

Drills & Drilling Machinery
Bucyrus-Erie Co.
Ingersoll-Rand Co.
Petersen Engineering Co.
Timken Roller Bearing Co.

Drills (Electric)
Skilsaw, Inc.
Wodack Electric Tool Corp.

Elevators (Material)
American Tubular Elevator Co.
Chain Belt Co.
Iowa Mfg. Co.
Link-Belt Co.

Engines
Allis-Chalmers Tractor Div.
American Hoist & Derrick Co.
Caterpillar Tractor Co.
Continental Motors Corp.
Cummins Engine Co.
Detroit Diesel Engine Division
Harnischfeger Corp.
Ingersoll-Rand Co.
International Harvester Co.
Wisconsin Motor Corp.

Expansion Joints
Laclede Steel Co.

Financing
C.I.T. Corp.

Finishing Machines (Bituminous)
Barber-Greene Co.
Blaw-Knox Division

Finishing Machines (Concrete)
Blaw-Knox Division
Jaeger Machine Co.

Floor Construction
Smooth Ceilings System

Flooring
Fenestra Building Products
Kerlow Steel Flooring Co.
Truscon Steel Co.

Forms (Concrete) and Accessories
Baker-Roos, Inc.
Blaw-Knox Division
Economy Forms Corp.
Heltzel Steel Form & Iron Co.
A. C. Horn Co.
Irvington Form & Tank Corp.
Richmond Screw Anchor Co.
Joseph T. Ryerson & Son, Inc.
Symons Clamp & Mfg. Co.
Universal Form Clamp Co.

Generating Sets (Electric)
Caterpillar Tractor Co.

Graders
J. D. Adams Mfg. Co.
Allis-Chalmers Tractor Div.
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Road Machinery Co.
Galion Iron Works & Mfg. Co.
Koehring Co.
W. A. Riddell Corp.

Gravel Plants (Portable)
Iowa Mfg. Co.

Grinders (Electric)
Wodack Electric Tool Corp.

Hammers (Electric)
Wodack Electric Tool Corp.

Hoists
American Hoist & Derrick Co.
Clyde Iron Works
Construction Machinery Co.
Harnischfeger Corp.
Ingersoll-Rand Co.
Jaeger Machine Co.
McKiernan-Terry Corp.

Hose (Air, Water, Steam, Suction)
United States Rubber Co.

Industrial Financing
C.I.T. Corp.

Insurance (Automobile, Casualty, Compensation, Liability)
Aetna Casualty & Surety Co.
Central Surety & Insurance Corp.
Employers Mutuals of Wausau

Joists (Steel)
Ceco Steel Products Corp.
Macomber, Inc.

Kettles, Heating (Asphalt & Tar)
White Mfg. Co.

Loaders (Portable)
J. D. Adams Mfg. Co.
Barber-Greene Co.
Link-Belt Co.

Lubricants
Lubriplate Division

Menders (Hose)
Dixon Valve & Coupling Co.
Ingersoll-Rand Co.

CMC Self-Raising Tower-Hoist

THE INDUSTRY'S MOST VERSATILE

- Picks itself up • Easily extends
- Lifting heights up to 94 feet
- Single or Double Drum Hoists
- Platform speed—100 ft. per min.
- Lifting capacity—2,500 lbs.

Optional Equipment: Gin Pole Assembly, "Chicago" Boom, Tip-Over Bucket, Truck Mounting, Interchangeable 10' Extensions.

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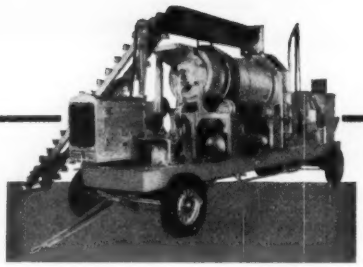

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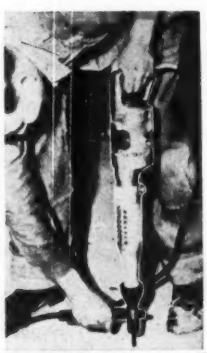

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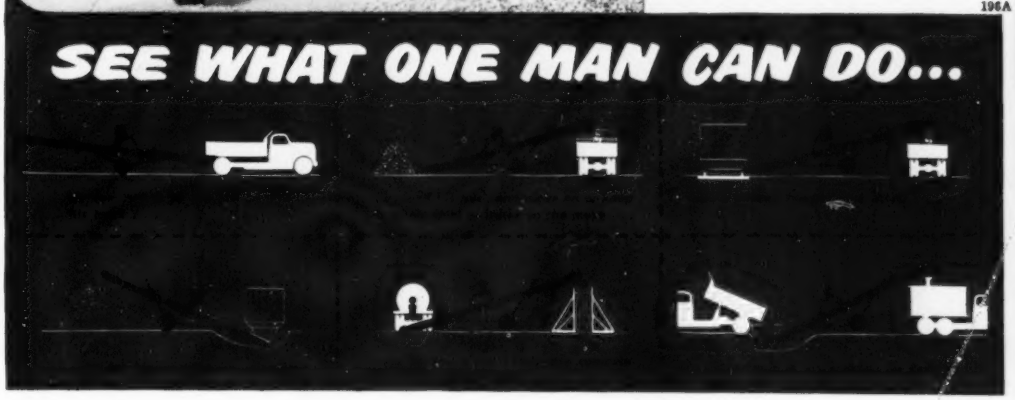

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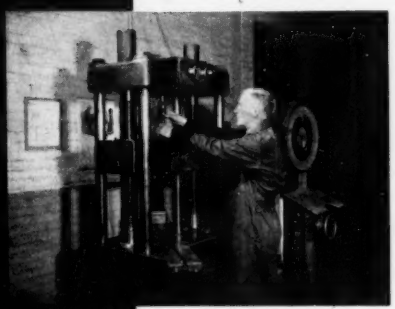

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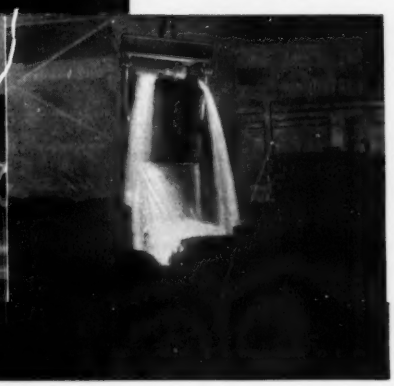

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